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Original Lectures.

ARTICLE I.

ON PUERPERAL VAGINITIS AND LACERATION AS CAUSES OF VESICO-VAGINAL FISTULA. Clinical lecture by WM. H. BYFORD, M.D., Prof. of Obstetrics, Chicago Medical College.

Gentlemen: The main object I have in view in my clinical lecture to-day, is to develop more fully than has yet been done—so far as I am informed—the *modus in quo* of the formation of vesico-vaginal fistula from prolonged pressure of the fœtal head in passing through the pelvis. You have no doubt been surprised at the great damage to the soft parts in one case we have in the Mercy Hospital, resulting from ignorance and negligence in the management of, or rather mismanagement of, her labor; and without a somewhat detailed account of the morbid processes following the confinement, you would hardly be able to comprehend with any clearness how they were effected.

I will relate in a concise manner the history of the labor so far as we were able to get it, and again describe to you the condition of the pelvic viscera when we made the examination. I think the ex-

planation I intend to give you will be more interesting and instructive, if I add a short account of the case upon which you saw me operate yesterday. The resulting injury was very much less in this than in the other case, but it was brought about by the same cause—an impacted head—and the subsequent vaginal inflammation was the same in character; differing however very greatly in degree. I will conclude the lecture by a third case recently operated on in your presence, in which the accident originated in a very different manner, and call your attention to the widely different conditions of the vaginal cavity, and the appearance of the fistula itself. If I am successful in making myself understood I think I will prove to you that the effect of the after mismanagement of these disastrous cases of midwifery was as pernicious as that of the labor itself, and that much of the resulting damage might have been avoided by judicious subsequent treatment.

Our first case is Mrs. W—— from western Iowa. This patient, gentlemen, is a primipara, twenty-five years of age. As you are aware, she is now in the hospital the second time. Last April she first entered the institution in a very enfeebled condition; three months after her confinement. She then was suffering great pain in the pelvic regions, of a dull aching character, with a sense of great heat where the vagina ought to be, her pulse was steadily over one hundred strokes to the minute, and her temperature from one to two degrees above the normal standard; she had a very poor appetite, and was under the necessity of taking some form of opium to secure rest at night. She was greatly emaciated, and prostrated to such a degree that she was unable to sit up more than a few minutes at a time. Her extremities were cold and bathed a good share of the time in a very liquid perspiration. When we came to examine the vagina, we found it to be the receptacle of urine and fœces; the whole of both of these excretions passed through the canal, which was large and very irregular in shape, bearing no resemblance to the normal vagina. Upon separating the labia, we found about three quarters of an inch of the urethra left, the internal portion of it entirely gone; no trace of vaginal mucous membrane could be found, except a small patch just above the perineum on the poste-

rior wall. Above this the recto-vaginal septum was removed for two inches, and for this distance the posterior part of the great irregular cavity was formed by the mucous membrane of the rectum; at the upper part of the recto-vaginal opening was a dense semilunar cicatricial band sweeping half way around the pelvis, the left hand extremity of which terminated lower down than the right. The anterior and much of the lateral walls of the cavity were formed by the mucous lining of the upper wall of the bladder, so much of the substance of the bladder was gone that there was not enough left to collapse into this cloaca. The perineum was very deficient, measuring only about half an inch anteroposteriorly, but so much of the external sphincter was left as to contract the anus very firmly; several large cicatricial deposits bound the sides of this great cavity to the pelvic bones. The external organs were inflamed and excoriated so as to add very much to the suffering of the patient. As you see her today, after a lapse of six months, she is very much improved in general health, she has the color, flesh and vivacity of good health; and comes to us, hoping to have an operation performed that will restore the integrity of the vagina, and is very much disappointed because she is told that the time has not come to make any surgical effort to improve her condition. We find however that nature has made a wonderful improvement in her local condition.

I forgot to say to you that in the first examination I entirely failed to find the os uteri.

The whole vaginal cavity is very much contracted and the cicatricial bands more prominent than at the first examination, and the opening into the rectum has decreased in size to such an extent as to prevent the fæces, when hard, from passing through it, and now she actually evacuates a portion of the contents of the rectum through the anus. Now what is the best we may hope for by an operation in the future? It is not unreasonable to suppose that, after a while, we may be able to close the recto-vaginal fistula, and then by closing the vulva, enable her to pass the urine through the urethra. This is all I think we shall ever be able to do for her. But this will very much improve her condition. I cannot yet find the os uteri, although I can feel the body

of the uterus through the rectal opening. She has not menstruated, and it is probable she never may. Possibly the uterine cavity is not obliterated, and it may communicate through some very small undiscovered canal, with the vagina, or the vesical cavity may be so completely obliterated as to cause the menses to be retained. Let us look at the obstetrical history of this case. It is very imperfect, but yet sufficient is revealed to enable us to get at the main facts. She was confined in the latter part of January, 1877—she was in labor three and a half days, during the last two of which the head of the fœtus rested in the pelvic cavity. She was at last delivered by the perforator and crotchet. She was first attended by a midwife, who for three days held out the hope to the patient and friends that nature would deliver the woman "all right." At the end of this time a physician was called in, but having no instruments a further delay was necessary before a second could be procured with the requisite means of terminating this disastrous labor. The child of course was dead, and in a state of decomposition when delivered; the patient was in a state of great exhaustion, and for several weeks her life was jeapordized by what was called puerperal fever. On the fourth day the discharge from the vagina became very fetid, and masses of flesh, as the woman expresses it, passed or were removed from the vagina by the attendants, and on the sixth day the urine and fæces commenced to pass the vaginal orifice. It was a month before hopes of her recovery were indulged in, and she was barely able to be brought from her home in a palace-car to Chicago, in three months from time of confinement.

Before making any comments on this case let us review the history of the second case, that of Mrs. M——, from Michigan, whom we operated upon yesterday for vesico-vaginal fistula. She is also a primipara, thirty years of age, she is a very large fleshy woman, weighing over two hundred pounds. She was confined in January, 1878. Her labor is described by her and her friends as very severe and protracted. From her statement there can be no doubt but that the head remained immovable in the pelvis for twenty hours, when it was removed by the forceps. She was in care of a midwife, who assured her from time to time, that the child was about to be born, as it could be

seen when the external parts were pressed open. This declaration enabled the midwife to postpone the call for aid, until, as before stated, the head had been in that position twenty hours or more. At the time she was delivered the patient was very much exhausted, had vomited a number of times, her extremities were cold, pulse rapid and her mind wandering; in ten or twelve hours re-action had taken place, the temperature was increased, the pulse remained frequent, the external parts were swollen and there was tenderness and tumefaction in the lower part of the abdomen. I could not learn that the urine was evacuated by the catheter at any time, but the patient assured me that she passed it in small quantities through the urethra. For two weeks she had what was called a mild form of child-bed fever. During this time there were vaginal discharges that became very offensive, and in something over a week the urine commenced passing involuntarily; at first, it was supposed, through the urethra, but finally there could be no doubt that it all came by way of the vagina. Although we cannot arrive at definiteness, I think we are justified in saying that as early as the eighth day the fistula between the bladder and vagina was established.

When she came here an examination revealed a fistula 4 Cm. in the long diameter and about 2½ Cm. in the shorter. The upper end of the opening extended to the left of and involved the cervix about 1 Cm. The lower extremity reached across the median line of the vesico-vaginal septum, and extended down to the urethra. This description, as you see, makes the direction of the fistula oblique to the general direction of the vagina and ovoid in shape. This fistulous opening must have resulted from a considerable loss of tissue by sloughing or ulceration or, more probably, both. Fortunately there were no cicatricial bands, the uterus was quite movable, and the vagina supple and otherwise healthy.

This description of these two cases is given with a view to illustrate the usual manner of their occurrence. You can hardly doubt, from a review of the circumstances attending the labors, that protracted pressure of the fœtal head upon the soft parts nipped between the solid bones of the skull and the bony pelvic wall, was the cause of the vesico-vaginal fistula. This cause is recognized by most writers upon the subject, and thus far their

explanation and testimony as to the occurrence of the accident is clear and to the point. The general expression of the manner in which this pressure acts, is so loose and uncertain, however, as to mislead the student, both in his understanding of the process through which the damage takes place and the proper method of treating the consequences. The idea conveyed is that the pressure of the head produces sloughing, and that the fistula is left as the result of the loss thus arising. We are led to infer that this loss of tissue is the immediate effect of the pressure, that death of the portion of the vaginal septum takes place at the time of the pressure, and consequently the damage is both immediate and irremediable. That embarrassment of the capillary circulation in some of the more aggravated cases may be so great, as to make reparation impossible, I can conceive; but from somewhat extensive observation I am convinced that these cases are exceptional, and that by an intelligent understanding of the subject, the sloughing might be avoided in a large number of cases, and in all greatly limited in extent; indeed I believe that sloughing in the proper sense of the term is not generally the cause of the fistula, but that it is more frequently the effect of extensive ulceration.

One of the best authorities on the subject of vesico-vaginal fistula, Dr. Emmet, of New York, read an elaborate paper at the recent meeting of the American Gynæcological Society, in which he tabulated the conditions under which it occurs. The only point made in that paper to which I desire to call your attention, is that the *average* time in the 161 cases therein mentioned, when the urine made its appearance in the vagina, was nine days after delivery. In some cases the time was, of course, much longer; in others, much less than this average time; but in none did that excretion find its way through the septum immediately after the birth of the child.

The question naturally arises, in this connection, what was transpiring in the vagina from the time of delivery up to the period of the completion of the fistulous opening and the appearance of the urine in the vagina? Can it be that one, two and sometimes three weeks are required for the separation of a slough formed at the time of delivery? I think not, and again say that I

believe immediate death to the parts involved is the rare exception.

Then how is the fistula usually produced?

I answer, by the ulceration attending the severe inflammation caused by the detention of the head. Sometimes, doubtless, the ulceration is preceded by sloughing, but not always, and when thus preceded by the sloughing of a part of the thickness of the vaginal wall, the ulceration destroys the remaining substance at that point.

For twenty years I have been in the habit of describing in a distinct manner to my classes what I call puerperal vaginitis. In my work on the "Medical and Surgical Treatment of the Diseases and Accidents Peculiar to Women," the first edition of which was published in 1865, I have devoted a section to the description of this affection. You will there find the causes, symptoms and mode of treatment given with a view to avoid the disastrous consequences that usually result from the disorder, and I am convinced that if the teaching there given were properly followed out, that vesico-vaginal fistula would often be avoided, even after the protracted retention of the head had initiated the processes which, if not arrested, would eventuate in that deplorable lesion.

As you have seen by the imperfect history of the two sample cases I have detailed, the subjects of these badly conducted labors are left in a state of great exhaustion, which is followed by a rapid pulse, elevation of temperature and other symptoms of a low grade of inflammatory fever, the severity of which is indicative of the amount of mischief going on in the vagina and neighboring viscera. Locally there is tumefaction of the lower portion of the abdomen, with tenderness on pressure; the labia and perineum are swollen and very sensitive, and the whole vaginal cavity is hot, dry and tumefied; the urethra is inflamed and very tender to the touch, and either from this condition or partial paralysis of the bladder, or both, the urine is retained. In a short time the discharges from the vagina become muco-purulent, a little later fœtid, and before long shreds of decomposed mucous membrane and fibrous tissue escape, and eventually urine makes its appearance among them. A careful

examination of the vaginal walls with the finger, on the second day and thereafter, will detect patches more tumefied and roughened, pointing out the localities where the walls are on the point of yielding to the processes of ulceration and sloughing.

In some instances, no doubt, these ulcerating points mark the boundaries of necrosed patches of the vaginal wall, and in rare cases a slough does separate the whole thickness of the septum; but in the majority of them the slough, when it drops from its position, only partially perforates the vesico-vaginal septum, while ulceration completes the damage. Frequently, however, especially in the less grave forms of injury, ulceration does all that is required to lay open the division between the vagina and bladder. In the former and more intense forms of injury, the perforation will take place in four or five days; in the latter, less mischief is done, and the urine does not flow from the vagina until one, two and in some instances three weeks have elapsed. I am sure you will agree with me, gentlemen, that in this time there is ample opportunity to palliate or lessen the consequence of the damage done by the pressure of the fœtal head in all cases, and in some, to completely save the unfortunate patient from the disastrous condition presented in our second case. As I am not now dealing with the obstetrical aspect of this question, I do not think it necessary to speak to you of the management of labor as a preventive measure. You will be taught that branch of the subject by my very able associate, in a manner that will enable you to avoid all difficulties of the kind when you have exclusive management of cases of impacted head.

Before detailing the treatment necessary to be followed after these neglected cases of labor have terminated, I desire in a more emphatic manner to call your attention to the condition of the bladder as one of great importance in effecting subsequent mischief. It may be incapable of expelling its contents, so that it becomes distended, and the vesico-vaginal septum stretched to such an extent as to encourage and perhaps complete the breach of continuity; the sloughing and ulceration have begun by simple traction on the weakened points. But this is not all; the capillary circulation in the distended part is so embarrassed as to

promote ulceration, while the weight of urine on the septum is another item of mischief.

Of the treatment then I should say, that to maintain an empty condition of the bladder is the first requisite, and is indispensable to success. The sensitiveness caused by the inflammation will sometimes render this a difficult task. In most instances, however, the bladder will tolerate one of Dr. Sim's catheters. This instrument, armed with an elastic tube long enough to carry the urine into a receptacle by the side of the bed, will keep the bladder empty, at the same time that it prevents that secretion from coming in contact with the inflamed labia. The stationary catheter will cause less irritation than the frequent introduction of one for the same purpose. Another thing quite important is to prevent distension of the rectum by fæces and gas, by first washing that organ out thoroughly, so as to free it from all solid contents, and then placing an elastic tube in it to permit the escape of flatus. The vaginal inflammation should be treated for the first day or two by large injections of hot water from four to six times a day, for the purpose of stimulating the capillary circulation, and keeping the vagina clean. When shreds of membrane begin to make their appearance or the discharges to contain pus, it will be necessary to examine the vaginal walls with the finger to ascertain the locality of the slough or ulcer. On the anterior wall just behind the symphysis, and perhaps a little to the left, the roughened, uneven surface will indicate the position, size and depth of the mischief going on. To these places special attention should be directed; applications should be made to them with a view of arresting the ulcerative process. By means of a flexible tube or a Lente's ointment carrier, directed by the finger, we may make almost any desired application; one of the best I think is a solution of sulphate of copper of the strength of ten grains to the ounce of water. This can be thrown upon the parts through a tube in quantities just sufficient to saturate the surface once a day. A solution of nitrate of silver of about the same strength will also answer a good purpose. These local applications will not enable us to dispense with the use of the large hot water injections; these must be kept up steadily. I have no hesitancy

in believing that I have on several occasions prevented the perforation of the bladder by this course of treatment.

We should by no means neglect general treatment in these important cases. The internal administration of quinia and iron, and liberal nourishment are all-important to improve the reparative powers of the system; while the judicious use of opium will relieve the pain and suffering which are sometimes very great. The treatment should be persevered in until the ulceration is entirely healed.

Before closing my lecture, gentlemen, I wish to call your attention to another case which I presented to you a few days since, as illustrative of another much rarer course of vesico-vaginal fistula, viz: that of Mrs. M——, 28 years of age, from the interior of this State. She is a small woman, muscular and of very vigorous form. She was confined with her fourth child, five months before entering the hospital. Her three previous labors have been natural and of quite short duration. The last labor terminated in about four hours from the time of commencement; her physician did not arrive until a few minutes before the expulsion of the head. When he made an examination he found the bladder prolapsed, and pressed very forcibly out between the labia. He first thought the protrusion was the bag of water, but before he had time to verify his diagnosis there was a gush of fluid and the head was delivered. The rest of the fœtus was almost immediately expelled, and was soon followed by the membranes and placenta.

At this time the true state of things was not suspected, but the continued dribbling of urine led to a digital examination and discovery of the fistula. From this statement of the case we cannot doubt but that the distended and prolapsed bladder was torn by the force of uterine contractions. I have never before known this accident to occur; whether there are such cases on record I am not prepared to say.

At the time of the operation, I drew your attention to the fact that while this fistula extended from the cervix uteri to the urethra, it was in the form of a fissure. There was no loss of substance as is always the case in fistula caused by puerperal vaginitis.

Original Communications.

ARTICLE II.

NOTES ON PLACENTA PRÆVIA, WITH REPORT OF A FATAL CASE.

By E. O. F. ROLER, M. D., Professor of Obstetrics, Chicago Medical College. Read before the Chicago Gynæcological Society, Dec. 27th, 1878.

The importance of placenta prævia as a dangerous complication of labor, will be my apology for selecting it as the topic for discussion this evening.

No other complication in midwifery involves greater peril to mother and child; none other demands prompter action more vigilant watchfulness and discriminating judgment. And yet the treatment is by no means definitely settled. All methods thus far adopted are liable to fail in good results, and we are yet in uncertainty as to the comparative value of the modes of treatment which have been especially recommended for the prevention of hæmorrhage.

Among authorities, opinions have varied with regard to the exact situation of the placenta on the inner surface of the uterus; and the different views entertained concerning the vascular relations which obtain between its structure and the maternal system have determined, to a considerable extent, the management of these cases during labor. The subject, however, is of vast proportions, and I do not propose attempting an elaborate or even systematic discussion. I intend simply as preliminary to the report of a fatal case which came under my care, to mention a few of the more important points embraced in the subject, making comments thereon as expressions of my own opinion, and leave the further discussion to the members of the society.

The possibility of the descent of the ovum beyond its strictly normal position in the uterine cavity, must depend on two accidental circumstances:

1st. Failure to make *prompt* attachment near the Fallopian tube after its entrance into the cavity. This might be owing either to a faulty deciduous formation at the time of its arrival, or it is possible that the ovum, not becoming fecundated until a later period, would find neither the mucous surface prepared for its reception, nor its own vitality sufficiently changed to admit of adherence.

2nd. The mucous surfaces of the body of the uterus must be separated to such an extent as to furnish an easy passage through its cavity. This condition is less likely to exist in primiparæ, and statistics prove that, as a class, they are exempt from this accident. Inflammatory conditions of the mucosa would especially favor this patent state of the cavity of the organ. These conditions being present, gravity, aided possibly by the flow of secretions, would carry it downward beyond the zone of normal attachment.

LOCALITY OF PLACENTA PRÆVIA.

Authorities are not agreed in regard to the possibility of attachment of the ovum within the canal of the cervix.

Barnes, in his "Obstetric Operations," makes his theory and his practice contradictory. He agrees with Stoltz and Mathews Duncan in the opinion that the cervix is in no way involved in the reception of the ovum, while later, in making his imaginary zones, he makes the orificial, or cervical region, the seat of dangerous attachment for the placenta.

Rigby and Lee, among the older writers, Cazeaux and Bell among the more recent, insist that the ovum occasionally finds an intra-cervical location.

In a patent state of the os internum this would seem to be possible. The neck, however, is as separate anatomically as it is functionally from the body of the uterus. The mucous membrane of its cavity is entirely unlike the cavity of the body, and does not participate in the changes which take place in the latter in the event of fecundation of the ovum. As a consequence, the deciduous formation is entirely absent. Admitting, however,

its growth in this situation, abortion at an early day must be inevitable. In the process of expansion of the neck, the os internum would as effectually prevent invasion upward as it does downward when the ovum is lodged within its normal cavity.

The os externum having less power of resistance would soon become dilated, and the ovum becoming uncovered and without proper support, its early discharge would be insured. The process would probably be aided by reflex irritation from the neck, inducing contraction in the muscular walls of the body of the uterus.

I have met with at least one case of this kind in my own practice. Profuse flowing occurred toward the end of the third month of pregnancy, with the usual symptoms of expulsive effort. The placental attachment was distinctly felt just within the partly dilated os. Its artificial removal was followed by persistent and finally alarming hæmorrhage, which could not be controlled by ice in the vagina nor by the administration of ergot. An injection of dilute ferric persulphate at once and permanently arrested it.

Barnes, in defining the limits for the situation of the placenta in prævial presentations, does not require that it should overlap the os internum. If any portion of the placenta find attachment within his cervical zone, "whether it consist in flap encroachment downwards, or whether it be the entire placenta," the condition exists for all the phenomena of prævial presentation. His language on this point is obscure, but he leads us to infer that while the ovum is primarily situated above the internal os, the cavity of the cervix is invaded by the placenta in the process of development.

If we are to accept the diagram introduced in his work as an illustration of his views, the dangerous area of attachment, consists almost entirely of the cervical cavity. The fact of its situation *over* the neck is of no importance, in his estimation of the danger of hæmorrhage, provided there is no encroachment upon this cervical area.

Dr. Ch. Bell, in a paper read recently before the Edinburgh Obstetrical Society, a report of which I have seen in the *Obstetrical Journal* since the last meeting of this society, while refuting the opinion of Barnes in regard to a cervico-orificial placenta, it

seems to me, falls into a like error in giving a definition of his own. His statement is that it is attached to the lower segment of the uterus immediately "within the internal os," which it may cover either partially or entirely, and its development goes on as when placed elsewhere *paripassu* with that of the uterus.

My own definition of placenta prævia would be implantation *over* the os internum within the cavity of the body of the uterus. It may have all degrees of extent in situation; the expressions "partial" or "complete" having practical value only in the unavoidable hæmorrhage which occurs at the time of labor.

CAUSE OF HÆMORRHAGE DURING UTERO-GESTATION.

The current opinion has been and is still held by some, that during the latter months of pregnancy the neck of the uterus undergoes rapid development. The area of the placental site in consequence becomes enlarged, and is finally torn asunder from the placental attachment, and hæmorrhage results. Even admitting an intra-cervical implantation, this explanation is not verified in the history of many cases which have come under observation.

If this be a law of uterine development, the physiological expansion of the neck, upon this hypothesis, must invariably be attended by hæmorrhage during the progress of pregnancy. But this is by no means the case. Clinical experience teaches that while ante-partum hæmorrhage frequently occurs in placenta prævia, it is not only uncertain as to time and frequency, but is occasionally absent. This fact alone, I may remark, is proof beyond question against the doctrine of development of the neck during the latter months of utero-gestation, concerning which there has been so much discussion.

Barnes, in treating of this subject, more with a desire, it seems to me, for originality than consistency, insists that the very reverse of these conditions occurs during the growth of the placenta. According to his view, the placenta is endowed with much greater vitality than the uterus. The area of uterine attachment does not keep pace with its own development. As a consequence, the placenta outgrows its base, springs away from its attachment, and hæmorrhage is the result.

Is not either of these hypotheses at variance with what seems to be an ordinary law of growth in the animal economy? A neoplasm or growth of any kind, physiological or pathological, although differing in structure from its base, maintains its equable relations with it in consequence of the blood supply upon which its vitality and increase of tissue depend. If the vascularity of the underlying tissue be lessened, from either natural or artificial causes, in like proportion will the part supplied by the ultimate distribution of the vessels be affected, and the reverse of these conditions also is true. In cases of incomplete abortion, where the placenta remains adherent after the embryo is destroyed, its nutrition is modified in proportion to the arrested development of the uterus. The structure is more compact, less vascular and the area of attachment is not increased.

A like example occurs in extra-uterine fœtation, where the placenta is implanted on tissue still less adapted to its growth than the cervical portion of the uterus. Strangely enough, Dr. Barnes cites instances of tubal pregnancy as a proof of the correctness of his opinion. "Hence," says he, "in the case of a tubal gestation, there comes a time when the growth of the ovum is so rapid that the tubal sac is unable to keep pace with it, and it bursts." I reply that it is not the placenta which bursts away from its basis of tubal tissue, and which is the point at issue. The accident is the result of increasing weight, rather than over-distension, the muscular fibers being unable to afford adequate resistance. In my opinion, therefore, these theories of unequal development of either placenta or uterus are physiologically untenable.

I hold to the doctrine entertained, perhaps, by a minority of obstetric physiologists, that the causes of hæmorrhage in prævial placenta, instead of being unavoidable, are strictly *accidental*, until near the end of gestation, when the painless tonic contractions set in, which precede the phenomena of active labor. One of these accidental causes is certainly the occasional premature dilatation of the supra-vaginal portion of the neck, rupturing some of the utero-placental vessels near the margin of the internal os.

This dilatation is entirely passive on the part of the neck;

not caused from development of its tissues, but by becoming softened in the vital act of preparation for the passage of the fœtus, the weight from above presses it asunder and separates its attachments. Further, the situation of the placenta on the lower segment of the uterus, where the walls are subject to varying pressure against the brim of the pelvis, to which is added the weight of the fœtus above it, would furnish conditions especially favorable to accidental detachment. It is a well known fact, however, as I have already stated, that not infrequently the period of utero-gestation is completed in placental presentations without the occurrence of hæmorrhage.

SOURCE OF HÆMORRHAGE.

Does the flow of blood come from the open uterine sinuses, or from the detached portion of the placenta? It can scarcely be said that the anatomy of the placenta is as yet perfectly understood. The doctrine, however, of a free maternal circulation in its substance is generally accepted. Utero-placental arteries, slender and tortuous and without contractile sheaths, carry arterial blood into the lacunæ, or blood-pools, which bathe the tufts of the chorionic villi. These pools empty into the utero-placental sinuses, or emulgent veins. Hence there is no capillary circulation in the maternal placenta, but a direct flow of arterial blood into sinuses of large caliber. These vessels of the placenta, even the arterial, if we are to accept the authority of Virchow, lose their coats entirely on leaving the surface of the uterus, and are mere expansions of the serotina in its sheath-like ramifications about the tufts of the chorion. While it is generally admitted by those who advocate a placental source, that a moderate hæmorrhage takes place from the open uterine sinuses, it is asserted that the dangerous loss occurs from the partially separated placenta. Simpson and Mathews Duncan are especial advocates of this doctrine of the placental source of the hæmorrhage.

I can only remark that, with my limited experience in this class of cases, I have come to no definite opinion on the subject, but have a bias in favor of the older doctrine of hæmorrhage direct from the uterus. This view is the most rational one, and the opposite is

based on theory rather than proof. The main argument brought forward by its advocates is the fact that a backward flow must take place in the uterine sinuses; whereas, in the placenta, the flow is direct through channels of large caliber, aided by the *vis-a-tergo* of the maternal arteries.

We know, however, from experience, that the open uterine sinuses *are* the source of profuse hæmorrhage in atonic states of that organ after labor. Again, if the hæmorrhage occur by way of the utero-placental arteries, ought not the blood to be arterial instead of venous, as is commonly observed? I regard the question as yet an unsettled one, to be decided by further investigation.

TREATMENT.

It is but seldom that a case of placenta prævia can be left entirely to nature. Active measures are generally required to avert the dangers of hæmorrhage, and the safety of the patient will be in proportion to the efficiency of the means used to prevent it. When labor sets in, the hæmorrhage must be regarded as unavoidable; because partial or complete separation of the placenta is inevitable. The expansion of the neck is not the only factor in causing it. The advancing part of the fœtus crowds the placenta downward, and assists in forcibly severing it from its attachments. Finally, either the entire placenta is detached and carried onward, or, if the situation has been partial, a flap is thrown down and the cervix freed from obstruction.

This is the spontaneous detachment which nature seeks to accomplish, and which no art can prevent. The physiological limit of the hæmorrhage must be regarded as dependent on the completion of this act, provided the uterus continues in a state of active contraction, and forces the head or breech onward over the open uterine sinuses. May we not here draw a practical inference for treatment? Is not the removal of the placenta to the extent of clearing the canal for the advancing fœtus, plainly indicated, in conjunction with other measures for securing a safe delivery?

Simpson, as a result of bed-side experience, decided to remove it wholly from the uterine cavity. The practical effect was, as he found, the arrest of the hæmorrhage. But, by this method,

the child is inevitably lost, and on this account, if on no other, the operation is objectionable, if other measures can save it, especially as in some cases, malposition of child or other conditions may compel a resort to version when, if living, a safe delivery might be possible. Barnes, on the other hand, contends that the entire detachment is not necessary for the arrest of the hæmorrhage, and he proposes the separation of the placenta over an area of nearly three inches from the os, and around the entire circumference. This treatment is based on the belief that there is an anatomical limit to the area of hæmorrhage, and when this part is freed from placental attachment, reaction occurs to such an extent that the uterine sinuses are closed. This, however, is mere hypothesis, and I think further experience will demonstrate that it is founded on erroneous views, and that such a procedure oftener increases than lessens the hæmorrhage. Would it not be more judicious management, having in view the two-fold object of arresting hæmorrhage and clearing the cervical canal, to separate the placental attachment fully one-half the circumference of the neck, and when practicable, not only to rupture the membranes, but to bring down the detached portion and thus, as nearly as possible, convert it into the accidental variety? When this is done, then, as in the accidental forms of hæmorrhage, the advancing head or breach would act as a compress upon the placental vessels, as well as covering the open mouths of the uterine sinuses.

The detachment of the placenta, however, either total or in part, in most cases is but one of the steps in the series of operative measures. No routine treatment can be adopted as a general rule of practice. Until the dilatation of the os is accomplished, either by artificial or natural methods, the hæmorrhage should be controlled by the vaginal or cervical tampon. The vaginal tampon, even if firmly applied, is apt to become loosened from the relaxation of the tissues, and besides the pressure upon the column of blood above the tampon has a hydrodynamic effect in forcing it around or through the meshes of whatever material may be used for the purpose. Of late years I have discarded the colpeurynters in use, as I believe they are inferior to firm packing with plugs of oiled cotton batting.

Theoretically, artificial dilatation of the os would seem preferable as it serves the additional purpose of arresting the hæmorrhage, but in practice the difficulty of keeping the dilator in proper position by reason of the nearness of the presenting part of the fœtus, makes the attempt very generally a failure. In whatever manner, however, the plugging may be done, it usually insures temporary safety until dilatation is accomplished.

Early rupture of the membranes, in my opinion, should be resorted to only in cases of partial presentation or, at least, where the placental edge can be brought down and as nearly as possible be converted into the accidental form of hæmorrhage. Barnes directs that if hæmorrhage be present the membranes should be ruptured as the first step in the management, before the os has become dilated and, even before the announcement of labor.

I think this advice, aside from the difficulty of the operation, as a general rule of treatment, should not be followed. Clinical experience has shown that the escape of the liquor amnii, with the placenta remaining implanted over the neck, will not always arrest the flooding. In that event, the attempt at version would be difficult, and in some cases would be impracticable.

Some authorities, instead of resorting to rupture of the membranes, as recommended by Barnes, discountenance it altogether. Simpson speaks doubtingly on the subject, and advises it only in cases of excessive quantity of fluid, or when hæmorrhage cannot be controlled, with an os too rigid to admit of version or other operative procedures.

In my opinion it ought never be done as a preliminary operation. The plug should be employed until partial dilatation is accomplished. If the membranes appear within the circle of the os, they should then be ruptured as in cases of accidental hæmorrhage. If this does not have the effect to check the flowing, turning can be promptly resorted to before the uterine walls contract to such an extent as to conform themselves rigidly to the inequalities of the fœtal surface. If the implantation be central, the membranes should be reached, after partial dilatation, by separation of the placental attachment with probe or finger.

Puncture of the placental mass is of doubtful propriety. It cannot well be done without recourse to a pointed instrument,

which might injure the child; and more especially the fœtal circulation would be opened, and its death made certain from hæmorrhage.

In the following brief report of a case it will be seen that the usual measures were employed, but failed to save the patient, although the peculiar dyscrasia existing at the time of labor, doubtless contributed greatly in bringing about a fatal result.

Mrs. H., aged forty, mother of four living children, became pregnant for the fifth time in the spring of 1874. During the earlier part of her married life, she enjoyed ordinary health, but in later years had been a great sufferer from dyspepsia, and was also subject to nervous disorders. The stomach at times would tolerate only the simplest kinds of food, and during the months of her last pregnancy she had subsisted chiefly on raw eggs, milk with lime water, and occasionally, stimulants.

For years she had been subject to profuse menstrual discharge, amounting at times to flooding. These attacks caused debility, but she usually rallied rapidly, and had come to regard them with indifference. A state of hydræmia seemed to be established, and the impoverished state of the blood and defective nutrition were apparent in laxity of tissue and in general emaciation of the body. This lack of tissual tonicity had been noticed especially during a previous confinement, at which time she first came under my care.

As the os dilated, thrombi formed in both uterine labia; the anterior, about two-thirds the size of an orange, descended so as to lie outside the vulva, at the moment of expulsion of the head. The placenta came away promptly, and while no great hæmorrhage followed its removal, the drainage persisted to a moderate degree, much beyond the ordinary puerperal term. The condition of the neck at the time gave me uneasiness, as I thought its tissues must have been greatly damaged by the extravasation; but the tumefaction disappeared, and as far as I could determine, with but little sloughing of the parts.

In her last pregnancy, the first indication of placenta prævia occurred about forty-eight hours previous to her confinement, when on rising in the morning, she was taken with painless and profuse flooding. Her husband came for me immediately, but

being ill at the time, at my request, he went for Prof. Nelson, who on arrival found that the hæmorrhage had ceased. On examination, he found the os high up and undilated. Pushing his finger well into the neck, he detected the presence of placental tissue. He explained to the husband the probable condition, enjoined quiet, and directed that one of us should be notified promptly upon the slightest return of flooding, or if any symptoms of labor should occur. At the end of forty-eight hours he came to my house, and stated that pains had set in and there was flowing, but he thought not excessive. I hurried to the house, taking with me my obstetric bag, containing, besides the usual instruments, a colpeurynter, Barnes' dilators, and a Davidson syringe, to which a flexible catheter was attached for injecting the uterus. I found the patient flowing freely, and already complaining of faintness. Pains short, sharp and frequent. On touching, the os was found near the brim, rigid, and dilated to the extent of readily admitting the index finger. By partly pushing the hand in the vagina, placental tissue could be felt overlying the neck of the uterns. I sent the husband hurriedly for assistance, giving him the addresses of a couple of the nearest physicians. The patient herself was perfectly calm, although she fully understood the critical nature of her condition. She was a lady of more than ordinary intelligence, had some knowledge of medicine, and between the time of Dr. Nelson's visit and that morning had read the entire article on placenta prævia in Meigs' Obstetrics. With the assistance of a couple of ladies who were neighbors, the hips were elevated and the head lowered. My first attempt was the introduction of Barnes' smallest dilator, but it resulted in failure. It may have been lack of skill, but I was embarrassed by the high situation of the os, and the placenta seemed to be crowded so closely to its edge that I could not keep it supported in position sufficiently to be caught by distension. The rubber colpeurynter was then introduced, covered with a linen handkerchief, and pushed well up into the vagina. Attaching the syringe it was filled with water to as great an extent as I dared without danger of its bursting. A dose of ergot with brandy was given, and a towel wrung out in cold water applied over the hypogastrium.

Under the action of the ergot, the pains increased and blood began to flow out of the vagina in spite of pressure and additional plugging. I now decided to resort to Barnes' method of separation of the placenta, and if possible to rupture the membranes. Hastily clearing the vagina, I introduced my hand well into its cavity, and finding the os a little more dilated, I easily swept the index finger its entire length, as I thought, around the circumference and separated the placental attachments. I could not reach the membranes, and the presenting part embarrassed the attempt as it pressed very strongly downward. I waited a few minutes, and found that the hæmorrhage instead of lessening had increased. The flow was constant, and it was noticed especially that the increase occurred in the interval immediately after the uterine contraction had ceased. Again the tampon was introduced as firmly as before, packing the vagina, however, with plugs of cotton batting squeezed out in soapy water. I intended that this should control the hæmorrhage for a time, until the os became further dilated; and, besides, the return of the husband with some one for assistance and counsel was momentarily expected.

I was confident that the head was downward, for the feet could be felt near the fundus, and movements indicated that the child was living. The pains at this stage were frequent, and she made attempts occasionally at bearing down which, though feeble, gave me hope that the os was dilating. The oozing from the vulva was moderate, and had it not been for the already enfeebled condition of the patient, it would not have especially added to the danger. But, slight as it was, and notwithstanding stimulation, she showed signs of increasing exhaustion. In addition to faintness she complained of oppression in breathing, and the uterus began to act more feebly. To add to my embarrassment the husband returned from a fruitless search for physicians. It seemed as if there was not a moment to be lost. Giving a dose of ergot with brandy and coffee, and allowing a very slight inhalation of ether, for a second time I cleared the vagina, and, with but little delay, dilated enough to admit my hand into the uterus, and passing toward the right groin, reached the membranes and ruptured them, the head being left occipito-anterior. Notwithstanding my

arm nearly filled the os, the flow of blood at this moment was frightful. The fingers were hooked over the knees and version very easily accomplished. As the hand was withdrawn, the placenta in some manner became detatched and came with it. The thighs having been brought through the os, I waited and kept up pressure over the uterus, feeling secure for the time from hæmorrhage, and regarding a little delay as important to avoid the additional shock of sudden delivery. The pains were slight and without expulsive effort on the part of the patient. The shoulders were finally brought out but the head being large, hung firmly in the lower strait, and getting no assistance from the patient, I quickly delivered it with the forceps. The child was well developed and weighed, as estimated, about eleven pounds. The uterus could now be felt moderately well contracted, but the oozing continued like a reddish watery discharge. To add to the list of my misfortunes in the case, I found that in my haste, I had seized a bottle of tincture of iodine instead of the liquid persulphate of iron. I had, however, but recently noticed in the Transactions of the New York Obstetrical Society, published in the *Journal of Obstetrics*, that iodine was recommended as a substitute for the iron on account of its antiseptic properties, and that it was equally effective as a styptic. This I diluted in the proportion of about six to one with water, and injected into the uterine cavity. The flowing ceased but the patient was pulseless, indeed, as I thought, *in articulo mortis*. Brandy and coffee were injected into the rectum, as the stomach rejected the stimulants previously given. The patient had retained her consciousness perfectly, and had scarcely uttered a complaint during the entire struggle. At this moment, to a remark made to her husband, that I feared she was dying, she whispered amid her gaspings: "I hear, what you say, no, no, I have been like this before." Pressure was kept up over the abdomen, and heat applied as much as her restlessness would permit. At the end of half an hour the pulse was felt with more distinctness, and the extremities became warmer. Exhausted as I was, I almost sank in dismay as again I saw a stream of blood flowing out of the vagina, although the outline of the uterus was well defined, and seemed to be in a state of contraction. The

diluted iodine was again injected, but death ensued within an hour after delivery.

This single-handed effort to save from death, but ending in failure, I have regarded as the most terrible experience of my professional life. In the light of that experience I should have done somewhat differently could the experiment have been repeated; but to some extent it exemplifies a fact which, I think, we occasionally realize in practice, that while the skill of the physician is often at fault, the resources of his art will sometimes fail him as well.

ARTICLE III.

CLIMATOLOGY. By F. C. SCHAEFER, M. D. An abstract of a paper read before the Chicago Medical Society, Nov. 18, 1878.

In considering the subject of the climatology of any given health resort, it would seem necessary to inquire into the natural constituents of the atmosphere, together with the modifying influences brought to bear upon it through the diurnal rotation of the earth upon its axis, the inclination of the ecliptic, the lay of the land, the contour and altitude, the quality of the soil, the varying state of the air as to temperature, humidity, rainfall, dryness, its electric and ozonic conditions, prevailing winds, and proximity to bodies of water, together with the innumerable impurities, organic and inorganic, that enter it from various causes. The subject thus becomes at the outset complicated and almost unlimited in its scope. In the present paper I propose to consider the most important merely of the topics suggested under the following heads: Temperature; Humidity; Dryness; Rain Fall; Winds; Vegetation; Contour of Land; Nature of Soil; Sea Air; Altitude; Ozone; Electricity, and Atmospheric Impurities.

TEMPERATURE.—The influences exerted by the temperature of the atmosphere upon the human organism, are not fully understood, but authorities agree in a general way upon the following points:

I. *Very warm temperature* (20° upward) produces a debilitating and relaxing effect upon all the tissues, diminishing vital

affinity. Thus occurs the lassitude of dwellers in tropical climes, and in our own climate when the thermometer remains above 20 degrees for any length of time.

The pathological sequences of great warmth manifest themselves in passive congestion of the brain, lungs, liver, kidneys and spleen, with softening of the heart and intestinal fluxes. Upon the latter point I refer to Dr. N. S. Davis' meteorological report to the American Medical Association of 1876.

II. *Moderately warm, dry, and moderately cold, dry climates* act as tonics, modified by individual idiosyncracy.

III. *Very cold temperature* is sedative, producing a decidedly soporific effect. The experience of Dr. Kane and the Arctic explorers confirms this.

IV. *Frequent diurnal changes* from warm to cold, and *vice versa*, are most pernicious, and produce the phenomena, so frequently noted, of a "common cold."

V. *Equable temperature.*—All medical authorities agree that an equable temperature, all things considered, is the best calculated to assist in the recovery of invalids, and this seems to be the chief condition in selecting a climate for patients suffering from any form of disease.

VI. From Dr. Chas. Dennison's report to the International Medical Congress, 1876, I deduce the following:

"*Warm, moist climates* in Europe are those recognized as sedative, while *moderately cold climates* are said to be stimulating.

"Heat is opposed to stimulation, so far as the nervous system is concerned, and this is demonstrated by Eckhart's experiments upon frogs. When the nerves are subjected to a temperatare much above normal, the electrical currents through them are lessened, and at last stop."

VII. *Heat in shade* is said by Pattery (Surg. R. N. of England), to have a sensible effect in increasing the temperature of the body.

WINDS play their part in influencing climates and usually very favorably by freeing the air of infusoria and noxious gases, and lowering temperature in times of great heat; but they

are equally liable to carry the former to otherwise healthful climates.

In selecting therefore a climate that may be favorable to any individual patient, we must not neglect to ascertain from what quarter proceed the prevailing winds. A wind blowing through a pine forest of some magnitude, and thence over the point of selection, necessarily carries with it an influence for good.

Again, a wind traversing a desert, afterwards blowing over a health resort, must of necessity cause a drying of vegetation and great evaporation of moisture that will result favorably or unfavorably according to the quality of soil and climate.

Among the disastrous winds of this nature may be mentioned the simoon of the Orient.

That winds purify the atmosphere of infusoria is abundantly attested by the fact that epidemics frequently diminish in intensity and disappear after wind storms, and by the comparative immunity from malarial disease, enjoyed by people living in a locality where all circumstances favorable to producing malarial fevers are present.

DRYNESS is regarded as *par excellence* the essential feature of an atmosphere beneficial for scrofula, rheumatism, catarrhal inflamation, kidney diseases, laryngitis, neuroses; and dryness in a clear climate containing no dust, is said to be decidedly beneficial in tuberculosis; but dryness where considerable dust accumulates and impregnates the atmosphere, is deleterious in proportion to the quantity of dust present. The particles of dust, it has been asserted, are frequently the active agents in producing phthisis, through an irritating effect upon the lung tissue—their accumulation here setting up a nidus of destructive inflammation, besides supporting septic germs. Prof. Tyndall has shown that dust-laden air is necessary to the existence of these organisms.

HUMIDITY is regarded differently by different authors, but statistics show that the most healthful climates as a rule, contain continuously not more than about Gms. 0.65 of moisture to the cubic foot of air.

It has been shown that in health resorts, where incipient phthisis, rheumatism, neuroses and visceral diseases improve rapidly, e is a minimum of humidity in the atmosphere, and, in sev-

eral of the most noted, the constant humidity does not exceed Gms. 0.53 to the cubic foot, when there is no rain.*

Unfortunately, we have insufficient data upon which to base positive statements; most of the records upon this subject being only relative.

Great humidity interferes with cutaneous exhalation, and produces a congestion of the viscera. This state of the atmosphere causes a general depression of the system, especially if accompanied by a high temperature. The air being loaded with moisture, there occurs a correspondingly slight evaporation from the surface of the body and its temperature is kept at its maximum.

RAIN FALL.—Rain, it is claimed, cleanses the atmosphere by washing impurities to the ground and carrying them away, when drainage is good.

The electrical disturbances accompanying rain storms are said to increase the quantity of free ozone.

The presence or absence of rain influences various climates differently, according to certain local causes, and a knowledge, simply, of the number of rainy days per month, or during the year, gives one but an imperfect idea of the character of the permanent climate; hence it will not do to be governed by the rain gauge alone in selecting a resort. What might be a surfeit of rain for one spot would prove an insufficiency for another. Considerable rain at an inland point, where the drainage is unusually good, is often of more value to the climate than the same or even a lesser quantity of rain to land on the windward side of a large body of water or upon an island in the sea, where vegetation is supplied with moisture by the more constant humidity of the air.

Again, rain storms, distributed through the year, giving a reasonable number of rainy days to each month, are *generally* more serviceable to the healthfulness of a climate than immense rain storms, with long intervals of dry weather, as may be readily understood.

In California, for instance, where no rain falls for five or six months of the year, the dust that accumulates in the air, in many localities, is so intolerable that it affects to a great degree the

* Proceedings of Int. Congress, '76. Dr. Denison.

good quality of dryness. The dust is undoubtedly frequently the exciting cause of disease; besides, the eyes of an invalid grow weary in looking upon the vast expanse of desert-like territory — nature's mantle of green being frequently entirely absent for months. Oculists would be very unwise in sending their patients to such localities.

VEGETATION plays an important feature in modifying climate, and does so by increasing the amount of rainfall.

All trees give off an abundance of oxygen or ozone and consume carbon di-oxide.

Forests intercept germs migrating through the atmosphere. The generated ozone, according to Prof. Schroeder, unites chemically with many of these conceded disease producers, destroying them. Prof. A. L. Loomis, in his recent address before the American Medical Association at Buffalo, referred to this subject in the following terms: "For some years pulmonary invalids have been recommended to take up their abode in the midst of pine forests. It has been known that they did well amid such surroundings, but why they did well has been an unanswered question. The more extensive and primitive the evergreen forests, the better adapted is the climate, to phthisical patients. The turpentine exhaled from these pine or hemlock forests, possesses, to a greater degree than any other known substance, the power of converting the oxygen of the atmosphere into ozone, thus rendering the air very pure, and consequently antagonistic to phthisical development. Experiment has shown that the direct inhalation of ozone has little, if any, power in preventing or arresting the progress of phthisis. We must, therefore, conclude that it is not the action of ozone upon the respiratory surfaces that renders the climate of localities where it is found in excess, especially salubrious, but that by its power of destroying noxious gases and atmospheric germs, the air is rendered so pure that its action is favorable upon the respiratory surfaces of those predisposed to phthisis."

Among unfavorable effects traceable to vegetation may be mentioned the development of vegetable (disease bearing) spores, which impregnate the air in many localities as the result of vegetable decomposition in stagnant pools and marshes.

Vegetation modifies *temperature*, as shown by M. Becquerel,

who, after making 1,400 observations, wrote: "Trees lower temperature by preventing the solar rays from acting upon the soil. The leaves cause the evaporation of large quantities of water by virtue of their organic activity, and increase the superficies liable to be rendered cold by radiation.

In summer the mean temperature of the air, ouside of woods, is higher than inside. In winter the reverse is true. The difference between the mean annual temperature at several miles from wood-land and that inside a wood, is about 3°."

CONTOUR OF LAND.—Local effects are exerted upon climates by unevenness of the earth's surface. Large mountain ranges greatly influence the course of winds. In North America the ranges running in general north and south, the winds blow in these directions, warm from the equator and cold from the polar region; while in Europe the main course of the great ranges being from east to west, the continent is more or less protected against the cold north winds, and hence the mountains of the south of Europe act as strong bulwarks against the excessively warm dry winds of Sahara, which are further modified by evaporation from the Mediterranean. These facts produce wonderful effects upon the climates of immense tracts of country; and to the position of mountain ranges, together with the direction of ocean streams and trade winds, are attributed, in great part, the differences in the climates of Europe and America, with reference to equability in temperature.

SOIL.—The nature of the soil increases or diminishes the humidity of the air. A modern climatologist* has written: "The peculiar dampness which acts most unfavorably upon phthisis, is not usually present where there is the greatest amount of rainfall, nor is it present because large bodies of water are in close proximity; but it mainly depends upon the nature of the soil. To avoid this dampness the soil should be porous and sandy, a loam soil of sufficient porosity to permit the rapid filtering of water from its surface, so that after a heavy rainfall the surface will soon become dry. All clay soils drain slowly and imperfectly, and the peculiar dampness arises which acts so unfavorably

* Prof. A. L. Loomis.

on phthisical patients. Lænnec states that the dampness arising from such a condition of soil, is one of the most certain developing causes ot consumption, and makes mention of a locality having such a soil, in which the dampness was so constant and of such a character, that more than two-thirds of the resident population died of phthisis."

Low soil of certain table lands and valleys, designated as marshy, and river bottoms, are very deleterious to health; holding, as they do, decayed vegetable matter in solution, which, when favorable conditions of the atmosphere are present, impregnate it with spores of various species giving rise to innumerable disorders, especially malarial fevers.

SEA AIR.—The atmosphere above the sea has a more equable temperature as a rule than the land air, owing as meteorologists inform us, to the following reasons:

I. "Because the rays of the sun penetrate the ocean to a considerable depth, and therefore produce less effect upon the surface."

II. "Because by the agitation of the sea there is a perpetual mingling of the surface with the lower strata."

III. "Because water has a much greater capacity for heat than the dry earth."

The physical forces acting in this manner, the surface of the sea is naturally less readily heated than the earth, and again cooling of the surface proceeds more slowly, because, as the heat radiates from the surface, the specific gravity of the upper stratum is increased, and it must make way for the warmer from beneath. The processes of heating and cooling being thus gradual, they result in materially diminishing the diurnal variation of temperature. The daily variation is placed by standard works on meteorology, at 2° in the torrid zone and 4° to 5° in the temperate zone. The annual range varies from 10° to 24° as one proceeds from the equator towards the polar regions, which is much less than in corresponding latitudes upon land.

The variation in temperature being so slight from summer to winter, it follows that places controlled by a marine climate, must have a comparatively equable temperature.

The sea air is said to be denser than land air generally, and

to contain an excess of ozone with consequent freedom from germs; it is therefore stimulating and invigorating, hastening the process of tissue metamorphosis.

The atmosphere being denser, there does not arise the necessity for exercise, (as we shall find in the case in high altitudes), in order to obtain a full supply of oxygen to sustain physiological processses.

There is greater humidity in sea air than in that of the mountain; but the saline element entering the former is claimed to counterbalance, in great part, the effects of humidity. M. Thaon of Nice asserts, however, that sea air is injurious to the rheumatic and dangerous for those having laryngitis and diseases of kidneys.

HIGH ALTITUDES.—The atmosphere of high altitudes is claimed to be purer, to contain less germs and more free electricity and ozone than that of the low lands. Prof. Loomis of N. Y., believing that the purity of the air in high altitudes might be the all important restorative agent in phthisis, says: "When I speak of the purity of the atmosphere, I mean not only its freedom from what are ordinarily called impurities, but its freedom from atmospheric germs. Prof. Tyndall has shown by actual experiment that the air as we ascend becomes freer and purer from those atmospheric germs. In the presence or absence of these organic substances we have a very important element of difference between the air of the low lands and the air of the mountains.

The air of high mountains is very rich in ozone. Dr. Schrœder states that ozone has the power of purifying the atmosphere—purifying it of organic substances; that its purifying power depends upon its oxidizing power; that while oxygen requires a considerable degree of heat before it will combine with other substances, ozone will do so at ordinary temperature. Ozone therefore destroys the products of decomposition by chemically uniting with them. The presence of ozone in the atmosphere is presumptive evidence that it contains no organic substances.

Dr. Chas. Denison, of Colorado, in his comprehensive report to the International Congress, at Philadelphia, 1876, claims that the electric tension of the air increases with altitude. He asserts further "that the diathermacy increases with elevation, there being

one degree greater difference between the temperature of shade and sun for each rise of about 220 feet," which he proves by experiment. The humidity decreases as the diathermacy increases. "The sun's rays being less obstructed, there is a proportionately longer influence of sunshine in each 24 hours, besides an additional excess due to a usually cloudless sky over such plains as those east of the Rocky mountains."

According to Humboldt there is a decrease in temperature of about one degree to each 300 feet of elevation.

HIGH ALTITUDES; THEIR INFLUENCE UPON MAN. The experience of scientists and travelers in the regions of great elevation is thus summarized in M. Flammarion's work on meteorology:

"*Breathing* is accelerated, impeded and becomes laborious. There occurs extreme dyspnœa after the least movement.

"*Circulation;* palpitation, acceleration of pulse, beating of carotid, sensation of plenitude in vessels, and frequent hæmorrhages.

"*Innervation;* painful headaches, irresistible desire to sleep, dullness of senses, loss of memory and moral prostration.

"*Digestion;* thirst, strong desire for cool drinks; distaste for solid foods, nausea, eructations and vomiting.

"*Functions of Locomotion;* pain more or less severe in knees and legs; locomotion causing great fatigue and exhausting all strength."

It follows from the preceding observations that high altitudes cause injury to persons suffering from: I, Disease of the heart. II, Diseases of blood vessels, as atheroma. III, Phthisis ulcerosa. IV, Individuals whose vital processes are too rapid. In some of the diseased conditions mentioned above, patients are unfavorably affected on mechanical principles, the organs mentioned being too feeble in their unhealthy state to resist the increased tension occasioned by the diminished atmospheric pressure; but they are also materially modified by increased tissue metamorphosis.

The following named pathological manifestations are considerably relieved, and in many instances almost eradicated by conditions present in high altitudes: I, Phthisis incipiens. II, Scrofulosa. III, Kidney diseases. IV, General atonic condition of entire organism.

Such abnormal states are remedied owing to the great purity of the atmosphere, the diminished pressure, abundance of free electricity and sunshine and the necessity of exercising in order to oxygenize the blood. The atmosphere in higher elevations, containing a less amount of oxygen to a given bulk of air, it becomes necessary to inhale a larger quantity of air in order to obtain a sufficiency of oxygen to exist. This of necessity causes deeper inhalations, distending the lungs to their utmost capacity, in due proportion developing these organs, together with the entire mechanism required for the respiratory function. The natives of Peruvian mountain regions are noted for their lung capacity, and their chests are said to measure considerably more than those of natives of low lands everywhere; and the same is recorded of the aborigines of the Arizona mountains.

Theoretically, and to a very great extent practically, we can safely say that the higher altitudes, with their concomitant conditions, are beneficial in the class of diseases already mentioned, and likewise in all such as require tonic treatment, together with pure atmospheric surroundings, not complicated by the pathological elements already alluded to.

I have thus endeavored to call attention hastily, to the more important elements in every climate, in order to suggest what effect the individual elements and different conditions brought to bear upon these elements, *per se*, may exert upon disease. While it is very well to consider such a subject in this abstract manner, the fact should not be overlooked that we can not prescribe this or that element separately as we might a simple drug. And herein, it seems to me, can be found the cause of so many diverse ideas and vague expressions relative to the kind of climate best adapted to various individuals. One physician orders a change to a high altitude, another to the low lands, a third prescribed sea air to all patients regardless of stage or character of disease, while still another recommends a warm climate, and so on *ad infinitum*. The difficulty in the past has been that our predecessors were eager to attribute the curative results to some one element, not bearing in mind that the same element is variously modified in different localities by local circumstances or general causes.

The empirical methods pursued in selecting climate, were of

such a nature as, in many cases, to result in the defeat of the object in view, no account having been taken of the different stages or various forms of the same malady. Phthisis being pre-eminently benefited by a change of climate, this was the first disease of which we have authentic records subjected to climatic theory. That consumptives could be improved in health in this manner, appears to have been known by the profession for fully 1800 years, and can be even traced to Celsus who, at the commencement of the Christian era, advised change of climate for phthisical patients, *providing* their strength would permit, preferring change from a rare to a denser atmosphere. Even to-day the great bulk of medical literature upon climatology is devoted to the treatment of phthisis. Fortunately, however, so far as understood at the present time, the general attribute of the climates beneficial for this dreaded malady, are almost universally of such a nature as to prove more or less useful for many pathological conditions of the human organism.

It is only through experience and long observation on the part of the more thoughtful that we have at length been led to the study of climatology, and are now beginning to recommend changes rationally based upon differential diagnosis and meteorological variations, and doubtless in a very few years there will be less conflicting ideas upon this subject.

It is needless to state that an ideal climate is not to be found for any malady, but after the therapeutic bearing of the disease—conditions to be considered in each case—their modifying influences upon each other, together with their individual and combined effect upon the human body, are once clearly understood, the physician will be much better prepared to act in each case with intelligence and proper foresight. Knowing that he has to deal with ulcerative processes in the lungs, and appreciating the fact that a high altitude is injurious chiefly on account of its stimulating effect upon the arterial system, due to diminished atmospheric pressure, he is prepared to act accordingly. He will advise a lower region, of equable, moderate temperature, of pure air, with minimum humidity, having considerable sunshine, electric tension, favorably located for drainage and for protection against injurious winds. All experience proves that these elements enter largely

into a climate beneficial for cases of phthisis ulcerosa. Here credit can be given to no one feature, but to a combination of circumstances and conditions.

Turning to phthisis incipiens, we discover a stage of a disease which can be retarded and possibly entirely relieved by proper climatic conditions. The following qualities produce, according to statistics, very favorable results: a reasonably high altitude, say 2,000 to 6,000 feet, with pure atmosphere, of equable temperature, containing considerable free ozone and electricity, with moderate dryness. This state of climate is recommended in a majority of cases of phthisis incipiens, general atony, neurosis and diseases of the kidneys and other viscera. There are, however, invalids for whom sea air is preferred, viz.: those who are incapable of taking muscular exercise, and yet whose processes of tissue change should be hastened. These are generally middle aged and old people.

CONCLUSIONS.

If we note carefully the observations of students of climatology, with reference to their bearing upon disease, we find the most healthful climate, as a rule, contain the following mentioned qualities, modified by the conditions already mentioned, the degree of superiority being governed by the number and grade of the latter elements present.: equable temperature, moderately warm or cold; moderate dryness; an abundance of sunshine, strong electric tension and considerable free ozone; sufficient winds to assist in removing impurities; contour of land and nature of soil favorable for prompt drainage; moderate rain falls; the presence of bodies of water; and proximity to forests.

For a limited class or special stage of diseases we find strongly recommended: high altitude; warm or cold temperature; sea air; moderate humidity.

And finally, points regarded as universally injurious are: decided humidity; lowness of lands, especially if the soil is marshy, or of a clayey nature; *negatively*, the absence of the abovementioned better attributes.

90 WARREN AVE.

ARTICLE IV.

OUR REGISTRATION OF BIRTHS AND DEATHS. By HENRY M. LYMAN, M. D., Professor of Physiology and of Nervous Diseases, Rush Medical College, Chicago.

The numerous expressions of approbation which have greeted my article on Registration of Births and Deaths, published in this Journal, October, 1878, led me to believe that it exposes a real abuse, and also points the way to the true remedy for the difficulties there indicated. A professional friend has, moreover, placed in my hands a copy of the New Hampshire statute, bearing upon the subject of vital statistics, which is so refreshingly in contrast with the despotic and unconstitutional laws which are too often imposed upon the members of the medical profession, that I hasten to share my pleasure with my brethren by quoting the section which relates to the subject of my recent essay.

"Section 2. Every physician attending at the birth of any child in this State, or in the last sickness and at the time of the death of any person dying in this State, shall make a record of such birth or death, in conformity with the requisitions prescribed for blank records of births or deaths in the first section of this chapter; and shall annually, before the fifteenth day of April, deliver a copy of such record, for the year ending on the last day of March next preceding, to the select-men of the town in which such birth or death may have occurred. For his services in recording such birth or death as hereinbefore provided, he shall receive from the select-men the sum of twenty-five cents."

Now, there is an example of simple justice and fair dealing, which is far more worthy of imitation than any German or Russian method of despotism. I am assured that it is perfectly effectual and that in no part of the world are the vital statistics so perfect as in that little old Granite State. As we in this newly settled region are just laying the foundations of everything, it is surely worth while for us to take sufficient pains to start our laws and institutions on a basis of *justice* and *equity*.

In Minnesota the State values these statistics sufficiently to pay not less than forty cents for the registration of each birth and death within its borders. Certainly, if such statistics are worth collecting, they are worth paying for. If they are not worth paying for, it is simply an outrage and an insult to threaten the members of a liberal profession with a heavy fine if they refuse to give their time and their money in charity to a rich and powerful commonwealth, which is willing to pay every one but a doctor for the smallest service. Lawyers understand these things, and have so arranged everything that no one can go near a public office in search of justice without a pocket full of quarters for use at every turn. For every stamp, for every mark on paper, there must be a good round fee for some limb of the law; but when the services of a doctor are wanted by the public, it is perfectly according to rule to make him work for nothing, and to fine him twenty-five dollars if he says "No." So evident is the injustice of all this, that I doubt not it might all be changed, if some one would take the time to urge the matter with patience and perseverance upon the attention of our legislators.

Our State Board of Health is said to have been created for the protection and welfare of the medical profession. It certainly can in no way more thoroughly commend itself to the profession than by charging itself with this matter, giving us, as a first installment of benefits, the New Hampshire law.

ARTICLE V.

A PRE-EMBOLIC STATE. By EPHRAIM CUTTER, M.D., Boston, Mass.

Instances of puerperal embolism resulting in unexpected and instant death are not uncommon. This embolism is a condition in which a vascular clot plugs up a blood vessel, the plug being called an embolus. Thrombi are clots that have not become plugs or emboli. To Dr. Salisbury we are indebted for our investigation of the causes of thrombi.

According to the latter, filaments of fibrin forming clots differ from ordinary fibrin filaments. He has pointed these out in con-

sumptive blood, and I have photographed and demonstrated the same in cases in which I have sought them. The latter may be of the same chemical nature but their morphology and genesis differ. The consumptive fibrin filaments of Salisbury are minute, straight and transparent, crossing each other at acute angles, radiating from centers and interlacing like a spider's web. They exist in health but in such surpassing minuteness and transparency as to elude all but the very best objectives and observations. Whereas the consumptive fibrin filaments are large, coarse and easily detected.

If any one will anæsthetize a frog, open the abdominal cavity, expose the spleen, clip away with scissors a minute section and place it under an objective having a magnifying power of 400 diameters, he will see these fibrin cells spinning the beautiful filaments described by our author ten years ago, which observations I have myself verified and am prepared to verify. But these are quite different from those found in thrombi or, if preferred "emboli." They are loose, white, opaque, rough, flat, of sensible diameter, and arranged, not in rectilinear lines but in skeins curled up like a housewife's mat or a sailor's fancy coil of rope. They appear like filaments of albumen coagulated by some mineral acid. They are readily found in old rheumatic cases, especially when cardiac complication is present. They have also been discovered by Dr. Salisbury and demonstrated by him to me, in the blood of persons living exclusively or immoderately upon certain articles of food, as strawberries.

Now, calling the state in which clots are found in the heart or blood vessels, embolism, the concretions being so large as to be visible to the naked eye and to block up mechanically the caliber of the blood channels, if these emboli can be detected before the occurrence of embolism, we shall be able to detect a pre-embolic state with thrombi so minute as to be recognizable only by microscopic examination of the blood.

This is what Dr. Salisbury has done; and he states that he has found these clots in the morphological elements of the blood a long time previous to the plugging of blood vessels.

The treatment he directs is restorative to what he calls the "parent glands," and causes them to organize their products more

perfectly. This is largely effected by regulating the alimentation. The micrography of the blood tells how the general condition improves.

Remarks: Notice that it is not here intended to teach that in all cases this pre-embolic state occurs, but that in all cases examined in the pre-embolic stage he has found the minute thrombi. I also have found them. It is quite another thing to say that they will always be found by other observers. I am not aware of any mention of this fact or of its use in medical practice save by the discoverer and his pupils.

Properly speaking an embolus is a clot that acts as a plug. Thrombi are clots that have not become emboli. I took my cue from Dr. Sullivan, and think no harm is done as long as the thing intended is understood. I close with a brief quotation from the *Microscopic Examination of Blood*, by *J. M. Salisbury*, M. D., New York, Moorhead, Bond & Co., 1868, page 22:

"Whenever there exists in the blood, abnormal bodies that are insoluble in the serum, more or less irritation of the lining tissue of the blood apparatus, especially in the heart and vicinity, is the result. Sooner or later, the organic muscular fibers lose a part of their tonicity, and there are frequently tired feelings, and wandering pains and aches, which are more likely to hang about the cardiac region than elsewhere. The insoluble matters floating in the blood have a tendency to fix themselves in or near the heart, to the epithelial lining, the secretions from which assume a more or less plastic and sticky condition from the irritation excited. These fixed particles become centers for the gradual accretion of fibrin, which applies itself slowly, layer upon layer, and finally little by little we have formed thrombi. These from time to time break loose from their points of attachment and float in the blood stream as emboli. There is another condition of the blood elements where there is great danger of thrombosis and embolism, and which may be readily diagnosticated by means of the microscope, in time to avert the serious results which may await the patient. *This is stickiness and plasticity of the fibrin filaments* and colorless corpuscles. This stickiness often extends to the blood discs. Whenever this state is present the colorless globules are found—instead of being scattered about singly—

sticking to each other in groups of two, three, four or more. The fibrin filaments are also sticky and plastic, and impede the free flow of the blood cells through their net-work. The result is a marked tendency to the formation of thrombi and emboli. Emboli under such conditions are produced frequently, simply by the sticking together of the colorless corpuscles, forming masses of greater or less size. They are also formed by the breaking loose of thrombi. This sticky state of the blood is usually scorbutic, arising mainly from deranged or defective alimentation."

20 TREMONT TEMPLE, Boston, Dec. 21st, 1878.

FISH-BONES IN THE PHARYNX.—When a fish-bone gets lodged in the throat, Prof. Voltolini thinks the worst thing a physician unpracticed with the laryngoscope can do is, to try to push the foreign body down into the stomach. This manœuvre never succeeds, but simply wedges the bone tightly in between the folds of the mucous membrane. Voltolini, therefore, suggests under such circumstances to let the fish-bone alone until a physician be found able to extract it, under guidance of the throat mirror. But, in the meantime, he advises the use of diluted hydrochloric acid as a gargle. He found, in a solution of 4.0 hydrochloric, or nitric acid, 1 to 240.0 water, the hardest fish-bones become soft and flexible in one hour, thinner bones were like threads after one half hour. And he thinks the continued gargling with the above mixture (the teeth being protected by oil or lard) will have the same effect upon a fish-bone lodged in the pharynx.—(Monatsschrift f. Ohrenheilk.)

THE office of the Illinois State Board of Health has been removed to the State House in Springfield. All communications should be addressed to Dr. A. L. Clark, Secretary of the Board, Springfield, Ill.

Clinical Reports.

Article VI.

Illinois Charitable Eye and Ear Infirmary. Cases presented at Dr. Jones' clinic, and reported by F. C. Schaefer, M. D., Assistant Aural Surgeon.

Eczema of Left Auricle and Auditory Canal.

This child, Mary W., aged 6 years, has an eruption located chiefly in the meatus externus of the left ear, which is exceedingly painful to the touch. It presents the appearance of a crusted skin weeping a yellowish fluid, and gives rise to more or less pruritus. The eruption has probably existed several months; no accurate history can be obtained regarding it. This disease is known as eczema madidans, here in the sub-acute stage.

Eczema appears in the acute, sub-acute and chronic forms. The acute is the most common, and occurs usually in poorly fed female children, and in those who have inherited a strumous diathesis. It is sometimes brought on in children by uncleanliness or by their picking the ears. Occasionally the disease is met with in the adult, resulting from the application of irritating substances to the part. This pathological condition may be idiopathic, or may occur in the auricle by reason of its contiguity to the disease in adjacent parts. In this case we find it invading the auditory canal, encroaching slightly upon the auricle.

Eczematous eruptions, as you are aware, are, by some, classed among vesicular skin diseases. They usually appear first in the form of vesicles, but in many instances, especially about the ears, the vesicles coalesce at their circumference; their liquid contents, at first clear, become semi-purulent, and exuding from the vesicles dry into a scab.

The treatment varies with the stage of the affection. In the acute form sedatives to the part are indicated. Burnett and Roosa use for local application :

Flor. zinci	8
Alum pulv	30
Amyli pulv	30

The powder is to be dusted thoroughly over the diseased part.

Should there be a burning sensation present, with tendency to inflammation, astringent lotions may be used, the eruption to be disturbed as little as is consistent with effectual treatment. The air to be excluded as much as possible.

The sub-acute stage calls for about the same treatment, with the addition of moderate stimulation with benzoated oxide of zinc ointment.

In the chronic form, emollients are useful to soften the scales, and more stimulating applications are recommended, as the citrin with zinc ointments, and such others as may suggest themselves to your minds. Should the patient present a cachectic physiognomy, constitutional treatment will aid in the result. Cod liver oil and various ferruginous preparations are very serviceable in some cases, and Fowler's solution in others. Cleanliness always plays an important factor. You will however be governed in your therapeutic measures by the individual case.

Probable Syphilitic Gumma in the External Auditory Canal.

Miss S., aged 24. The external auditory meatus presents a conical tumor about 3 Mm. in height and 2½ Mm. wide at its base, on the posterior wall of inner third of the canal. The tumor has been present a number of months. Upon first examination several weeks ago, it seemed like an exostosis, but during the last few days it has become considerably inflamed and softened, and is now quite tender. The patient is inclined to resist the touch of a probe. You also notice in front of the tragus an indurated excrescence which seems to be cartilaginous ; this appeared more recently and has developed rapidly. Exostoses are usually not painful, and therefore this tumor may be regarded as doubtful and somewhat suspicious. The patient gives no specific history, yet the growths are indicative of syphilis, doubtless inherited,

and it will be well to place her upon tonic and alterative treatment, with the expectation of causing the tumors to disappear.

Iodide of potassium and tinct. cinchona were prescribed.

Impacted Cerumen and Polypus in the External Meatus of one Ear, with Inflammation of both Tympana.

Attention was called to Miss M., aged 20. The patient said her hearing had been defective for several years. Has more or less tinnitus aurium now. States that the right ear only is affected. Examination with the otoscope reveals a milky, turbid appearance of the membrana tympani, indicative of a thickening of the part due to an inflammatory process. The triangular light spot present in the healthy membrane is here absent, because the thickening has changed its angle with the external auditory canal, and its turbidity has diminished its reflecting power.

The patient has a peculiar intonation of the voice in talking; she speaks in a high key. This condition of the voice would of itself indicate to an otologist that there is a defect in the auditory apparatus, which has lasted a long time. This manner of talking suggests to us that the other ear is also involved. We shall see. When a watch is placed a few centimeters from the ear she can not hear it. If you now look through the otoscope, you will see a dark, dry substance, with spots like flakes of bran — dry, epithelial scales scattered over its surface. This mass is impacted cerumen and desquamated skin; (the impacted mass is removed). You see, gentlemen, we have here a hard substance the size of a bean; so hard that the instrument elicits a grating sound as we rub it. The usual procedure for removing these accumulations is to syringe the ear with alkaline water. By repeated syringings the mass is softened and finally washed out, but as we wished to examine this case further to-day, a quicker method was resorted to, which, as you saw, consisted in lubricating the meatus with vaseline and seizing the cerumen with the angular forceps, extracting it by a gentle, vibratory motion. (Introduces otoscope.) We now detect upon the posterior wall of the auditory canal, not far from the membrana tympani, a red projection, presenting a raspberry-like appearance, forming a half sphere, having no pedicle; this is a polypus, a result of suppurative inflammation

of the tympanum. I shall now proceed to remove it with these forceps. There, the greater part has been extracted. What remains forms an irregular surface. To remove this, chlor-acetic acid will be applied. The patient winces under the treatment. The application of caustics is of course painful. Chlor-acetic acid is used because it can be better controlled than nitric acid; it does not manifest the same disposition to spread, and its caustic property is destroyed by diluting it with water, thus stopping its action. A view of the membrana tympani can now be obtained, and reveals the fact that it is even more opaque than the other, presenting a slight perforation near its base.

This case is instructive in that it should teach you the necessity of following up the objective as well as the subjective symptoms, and shows that although there may be present in the meatus a hard, dry accumulation, a granulating surface beneath it, may be found after removing what has practically become a foreign substance.

Mastoid Periostitis, Suppuration.—Eczema.

This little girl, less than two years of age, was brought here two days ago suffering with periostitis extending from the mastoid process upwards and forwards until the swelling has reached the superior border of the external auditory meatus. As the inflammation was of a suppurative character, poulticing was advised, and to-day we detect fluctuation. It will be necessary to cut deep, and to make a free opening. Observe how the introduction of the lancet to the bone above the auricle is followed by the escape of pus. There is evidently a sinus extending in the direction of the mastoid process. The poultices should be applied several days longer. You see the strumous diathesis in this child. Such children are subject to enlargements of the glands and periosteal inflammations. Frequently eczematous eruptions are found upon the skin, as here manifested, over the opposite ear.

Chronic Non-Suppurative Inflammation of Both Tympana, with Calcareous Deposit in the Membrana Tympani.

Mr. B., æt 57, entered the infirmary May 11, 1878; hearing had been more or less defective for three years, supervening upon catarrhal inflammation of the pharynx; he had tinnitus aurium

in both ears. At the present time there is no tinnitus, and his hearing is almost perfect. The professor introducing the otoscope invited the gentlemen present to look at the membrana tympani, saying the membrane presents almost a normal appearance with reference to its transparency. The triangular light spot is distinctly visible in the lower anterior quadrant, indicating that the membrane is but slightly thickened by the product of inflammation.

Changing the position of the otoscope you now see a peculiarly opaque, white spot, near the upper border of the drumhead, somewhat papular in appearance; this is a calcareous deposit, a not infrequent accompaniment of old age. It does not necessarily compromise the function of hearing. It is desirable that every member of the class should see the membrane in this case, in order that he may recognize the difference between healthy and diseased membranes of the drum as they come under notice, for it is essential to know, first—*what to look for*, and second—to *interpret what is seen.*

The triangular light spot is the first landmark, so to speak, that is looked for in examinations of this part. This triangle, or pyramid of light, in the lower anterior quadrant of the membrana tympani, is always present when the membrane is in a healthy state; so you see it is very important that you should recognize it when present, and the condition of the parts in its absence. The light spot is produced by a combination of three causes:

First. The lustrous epithelium of the healthy membrane, making it a good reflector.

Second. The peculiar angle formed by the junction of the membrane with the external auditory canal, and

Third. The funnel-shape of the membrana tympani.

Any deviation from the natural brilliancy of the membrane indicates a departure from the healthy condition.

NOTES FROM PRIVATE PRACTICE.

ARTICLE VII.

Diphtheria.—Thermic Fever.—Œsophageal Stricture.

1. During the late autumn, fourteen children have died of

diphtheria in a locality about fifteen miles southeast of Gardner, Ill. In one family, three of four children died. In another of six, three died. In another of seven, six died.

2. One evening during the heated term of last summer, I was called to attend a lady 80 years old. The son reported that after visiting the orchard, she was seen to stagger, and was helped into the house. She joined the rest of the family at supper, and was seen to eat a little, but seemed unconscious of what she was doing. After supper, she started to reach a door, fell to the ground, and was picked up completely unconscious. I found her in a comatose condition, with stertorus breathing, pulse 140, temperature 108°. Dr. Taxis being summond to my aid, we applied ice to the head and administered Norwood's tincture of veratrum virida. She remained totally unconscious for thirty-six hours; then rallied, and was soon as well as before.

3. Mr. Thompson, a native of Ireland, came to this country when 25 years of age. At this time he swallowed, by mistake, a corrosive acid, which produced great soreness of the mouth and throat, and resulted in œsophageal stricture. Being unable to swallow solid food, and being also fond of milk and cake, he made that his exclusive diet.

When I first saw him, he told me he had lived on this cake and milk for about 55 years. His story was corroborated by his wife and daughter, and I have no doubt of its truthfulness. I was their family physician for a number of years. His wife told me she made his cake very sweet and short; he dissolved it in his milk, and had eaten this only for more than half a century. He could not and did not swallow anything as large as an apple-seed after his injury. He was a farmer, and up to within a few years of his death was able to perform laborious farm work.

This man lived to a ripe old age—something over four score years. The extreme contraction of the œsophagus, the exclusiveness of the diet, his ability to perform hard labor, with his long lease of life, are noteworthy facts.

C. M. EASTON.

GARDNER, ILL.

Society Reports.

ARTICLE VIII.

CHICAGO MEDICAL SOCIETY.

Reported for the JOURNAL AND EXAMINER, by DR. ROSWELL PARK.

At a meeting held Dec. 16, 1878, Dr. John Bartlett read a paper on Placenta Prævia, suggesting an original method of treatment, a full abstract of which we present:

DR. BARTLETT introduced the subject matter of his paper, by a reference to the several plans for the management of placenta prævia commonly in vogue. He then proceeded to state the objections to these methods, quoting Lee and Simpson, as declaring the tampon an uncertain and treacherous aid, and adding: "It is quite possible, that, by damming up the blood, the tampon subjects the surface of the placenta to the hydraulic pressure of the mother's circulation with the result of separating it from the uterus too early, or to an unnecessary extent." In one case, Dr. Bartlett thought he had observed the prolonged use of the plug to lead to putrefaction of the retained blood and consequent septicæmia. It was a serious objection to the tampon that, when its removal for any reason became necessary, from the moment of its disturbance to the secure adjustment of the new plug, a greater or less loss of blood occurred.

In reference to the use of Barnes' dilators, for arresting bleeding, and dilating the os, he said: "They tend to expand in the direction of least resistance, and may thrust the placenta off from the cervix to a greater extent than may be necessary." In regard to the puncture of the membranes and the use of ergot, Dr. B. objected that the loss of the liquor amnii and the ergotic

contraction of the uterus, in case necessity arose for changing the position of the child, render turning difficult and may cause a delay injurious or even fatal to mother or child.

Dr. Bartlett having quoted from the summary given by Dr. Barnes in his "Obstetric Operations," passages having a bearing on the matter of his paper, said: "I conceive that Dr. Barnes is correct as to there being a period or stage when the flooding is spontaneously arrested, at least to a very considerable extent," but his view as to the cause of this arrest differed greatly from that of Dr. Barnes, who says, "when the dilatation has reached the stage at which the head can pass, the intermitting active uterine contractions arrest the hæmorrhage." Dr. Bartlett referred the arrest of bleeding mainly to the altered relation between the uterine vessels and the uterine tissue, through which they pass, brought about by the change undergone in the cervix from the state of contraction to that of more or less dilatation, a change not to be described as one of "contraction," "retraction," or "dilatation," but rather as a kind of stretching. "Were we able," he said, "to pierce this thick rubber band with hollow tubes, here represented by threads extending from edge to edge, it is plain that while it is as now unexpanded, unstretched, the flow of a fluid through the tubes would be easy and unchecked, but were I then to draw upon the band in this manner (stretching it) so as largely to increase its diameter, it can readily be conceived that vessels passing through its substance would be compressed, and the passage of fluid through them greatly retarded or arrested. It is thus, I think, by that active change in the os uteri, so resembling stretching, termed dilatation, that the vessels within it are impinged upon, and bleeding checked."

Dr. Bartlett continued: "It would appear then that in placenta prævia, hæmorrhage is liable to occur until the cervix uteri is fully dilated; that when that occurs, at least in actual practice, where the head or body of the child presses into, or is drawn into the cervix, bleeding ceases. That to await this dilatation, even when the tampon is used, is dangerous; that dilatation is delayed by the attachment of the placenta to the cervix, acting in some degree as an unyielding splint upon it, and that the loosening of the splint, the artificial detachment of the placenta, is a step

gained toward dilatation; that while this separation of the placenta over the cervix is desirable, it is important that it should occur to the degree necessary for the dilatation of the os only, inasmuch as the breathing space of the child is lessened, and the prospect of its being born alive is diminished in exact ratio to the extent of placental detachment."

As an improved method of effecting dilatation, Dr. Bartlett proposed the following plan:

"Perforate the presenting placenta by means of an instrument carried upon the last joint of the index finger, resembling a tailor's thimble, provided with a serrated margin resting upon and extending slightly beyond the finger-nail. Perforation having been effected, the opening made is closed by the point of a finger until by means of the left hand a Hobb's dilator, shaped like a truncated cone, with the base upwards, and having a diameter when expanded as great as that of the hand, is slipped into the perforation. Hobb's dilators consist of the usual arrangement of tubes and rubber bags with this additional device—they are covered with a sack of stout silk of any shape desired, with the effect of causing them, when once pinched into a strictured orifice to continue to distend it with gentle force, till the contraction shall be thoroughly dilated, and this, without danger of over-expansion of the parts of the sack above or below the stricture. They are, because of the thinness of their walls, capable of being introduced into narrow appertures, and they may be provided with an index by means of which the moment of their complete dilatation may be known. Such a dilator, being passed through the perforation in the placenta, is quickly expanded so as to bear upon the margin of the opening with the view of preventing the escape of liquor amnii and of arresting bleeding from the placental vessels. Then by gentle hydrostatic pressure, the os uteri, and with it the opening through the placenta, is dilated to a size sufficient to readily admit the hand, slight traction being made meanwhile on the staff of the dilator so as to secure the pressure of the placenta against the cervix with the view of limiting detatchment as far as practicable, and at the same time of arresting hæmorrhage from the fœtal and uterine vessels alike.

Dilatation being fully effected, as indicated by the register, the

operator diminishes the tension of the dilator by lowering the fountain of water, so that the hand may be easily insinuated between the bag (its contents regurgitating under the pressure) and the apposed margins of the cervix and placenta.

The hand is introduced, the dilator being withdrawn, so soon as the arm is felt to fill the os, the feet brought down and delivery effected as promptly as practicable.

By this method, Dr. Bartlett believed, the principle of the tampon would be applied with the greatest certainty and efficiency—that advantage is gained by introducing the plug once for all, no removals or changes being required in the process of dilatation. He thought the tampon would act in such a manner that instead of tending to separate to an unnecessary and undesirable extent, the placenta from the cervix, it would, on the contrary retain parts of it in apposition and in vital connection, which would by other procedures be separated.

The shape of the tampon and its position relatively to the placenta and cervix would tend to crowd these structures together in such manner as to prevent to the greatest possible extent bleeding from either.

The peculiarity of the dilator in expanding to a size definite and known and in automatically indicating when complete expansion was reached, enabled the practitioner to proceed to introduce the hand without fear of using violence and to turn, the liquor amnii being preserved, with ease, and without undue apprehension lest a dangerous delay result from an insufficient opening in the placenta or an inadequate dilatation of the os.

It has been objected to this method that perforation of the placenta, early suggested, has been abandoned because it is difficult of execution, because the insufficient opening in the placenta is sometimes an obstruction to delivery, and finally, that it is dangerous to the child in consequence of the wounding of the placental and uterine vessels.

The first objections do not apply to this plan, and in regard to the last it may be said that though the perforation of the afterbirth is generally condemned by writers, there are yet quite an array of authors who have found reason to recommend it." Here the essayist recited a list of names, concluding with those of

Denman, Blundell, Bard and Bedford. It was quite possible that in placenta prævia centralis perforation of the after-birth would involve wounding the largest placental vessels. The writer had no disposition to ignore this objection, but from certain *a priori* physiological reasons, he was of the opinion that the implantation of the cord at the point in the placenta corresponding to the os uteri would prove to be a rare occurrence.

The Doctor concluded by citing a fact which he regarded as rather interesting, analogically, than actually bearing upon the plan of treatment proposed, namely, that in the ungulates, as the mare and the sow, which have what the comparative anatomists denominate a *diffuse* placenta, an enclosed sac of umbilical vessels entirely surrounding the young, perforation of the placenta is essential to birth.

DISCUSSION.

At the conclusion of the paper, discussion being invited, Prof. Fitch commended the idea as being ingenious and possibly the best plan yet devised. But he feared that separation would be rather favored. When bleeding had occurred there must be more or less separation, and what was to become of the ruptured vessels? Would not the danger of uterine hæmorrhage be increased?

DR. HARCOURT inquired if Dr. Bartlett proposed to limit the plan proposed to the management of placenta prævia centralis? In case of lateral presentation, could the method suggested be depended upon for arresting the bleeding of placental vessels torn in slitting the placental edge?

DR. PAOLI held that no positive rule could be laid down for general adoption. He preferred the tampon to an entirely new method. He had six cases, in three of which, by aid of the tampon, he had succeeded.

DR. SAWYER thought it difficult to know what instructions to give a class when doctors thus disagreed. He considered it better

NOTE.—Dr. Bartlett suggested to the reporter that an instrument for perforating the placenta could be extemporized from a large thimble, by partially detaching its top from the conical portion by filing around about two thirds of its circumference, and thrusting it outward so that it stand in a plane parallel to the axis of the thimble. This portion being filed smaller and serrated on the edge, the instrument was ready for use. Muscular tissue and even thin board can be readily cut through by repeated sawing movement of the index finger armed with this device. A large sized Barnes' Dilator or a pig's bladder could be substituted for Hobb's Dilator.

for younger practitioners and students to have some precise idea of what should be done in such cases. If they were to go on the general rule of "using their own judgment," he feared they would lose every case. In seven years' practice he had had three cases; two of them complete or central, both of which he lost. His first case died of syncope from a rupture of the cervix and uterine tissue, as proved by autopsy. The site of placental adhesion was as rotten as wet paper. He thought the descent of the head, or, possibly, the introduction of the hand, thus ruptured it. His first case also had some laceration and died of puerperal septicæmia and mania. His method was to use the tampon. He felt sure that the hæmorrhage is largely from the placental as well as the uterine tissue; also that if he had perforated the centre of the presenting surface, he would have wounded the largest placental vessels, instead of avoiding them, as Dr. Bartlett thought might be the case. His autopsy had taught him that. He thought there was little comparison between the gravity of a partial and a central implantation. As a general instruction he would say "plug, and either turn or use the forceps."

The President, DR. INGALS, thought that the mere presence of clot partially or wholly filling the vagina might be made a sufficient tampon and thus serve a good purpose.

DR. BARTLETT replied: To the one or two members who would seem disposed to repudiate predetermined action in the management of placenta prævia, and even to discard "anything new," suggested for its treatment, he would simply cite the language of Dr. Simpson in his remarks prefatory to his paper "On the Spontaneous Expulsion and Artificial Extraction of the Placenta before the Child": "Mothers who are the subjects of placental presentations are submitted to as great peril of life from this obstetric complication, as they would be if seized with yellow fever or the cholera. Looking at these results, it will, we believe, be readily conceded that any attempt to diminish this fearful maternal mortality in placenta prævia is entitled, at least, to the consideration of the obstetric profession." In reply to Dr. Fitch's question, he would repeat the opinion expressed in a portion of the paper read, he believed, when Dr. Fitch was out of the room; that the pressure of the tampon from above downward,

crowding together the apposed surfaces of the placenta and uterus, would prove the surest method of either preventing or arresting hæmorrhage. In answer to Dr. Harcourt, he stated that the method was intended for central, lateral, and so far as the use of the peculiar dilator was concerned, incomplete implantations of placenta prævia. A distinguished obstetrician, of this city, had, in conversation, put the same question as Dr. Harcourt had advanced; he believed that the tampon used as advised would be as likely to control bleeding under these circumstances as any other means, but a satisfactory answer to the Doctor's question, could be given only after trial. Dr. Sawyer's case, where he found the origin of the cord corresponding exactly with the os uteri would seem to contravene the theory advanced in the paper as to the improbability of such an occurrence. In reply to the question of the President, whether he had tried the plan suggested, Dr. Bartlett stated that he had not; that the method had occurred to him within a few months.

During the evening the following interesting facts were stated: Dr. C. T. Parkes' *first* labor case was one of placenta prævia; while Dr. Fitch had but *two* cases in twenty-seven years practice, Dr. Mary Thompson had seen two cases, on adjoining beds, in the same hospital ward within a single week.

ARTICLE IX.

CHICAGO MEDICAL SOCIETY. REGULAR MEETING, JAN. 20. Reported by R. PARK, M. D.

DR. W. H. BYFORD repeated most of a clinical lecture (which is printed in this number of the JOURNAL AND EXAMINER) on "Puerperal Vaginitis, as a Cause of Vesico-vaginal Fistula."

In the discussion which followed, Dr. Dudley said he had seen cases, and made autopsies, where urine passed through fistulæ which were so small or contracted that they escaped detection. The plan of closing the vulva when most of the posterior wall of the bladder was gone, or when the fistula was too large to be closed, seemed to him an excellent one, inasmuch as a large receptacle was thus formed for urine.

DR. RARTLETT said he had once attended a woman in labor who had a prolapsus of the bladder. He introduced a flexible catheter, evacuated and replaced the viscus, and delivered her naturally and safely. He afterwards learned that she had suffered from cystocele for several years.

DR. FLOOD thought that forceps themselves might cause injury which would lead to fistula in a more direct way than by causing puerperal vaginitis.

DR. INGALS asked Dr. Byford whether the danger was great when the pressure, caused by the child's head, was severe, though of short duration.

In closing the discussion Dr. Byford claimed that the pressure of the head on the soft parts did not cause nearly as much damage *directly* as did the inflammation thus *indirectly* excited. Not enough attention had been directed to this point. Treatment *after* labor was much more frequently at fault than treatment *during* labor. He had labored hard to make this matter better and more generally understood. In answer to Dr. Flood's question, he thought it next to impossible, under natural conditions, to rupture the bladder. The vaginal walls were tightly stretched about the head, and were very strong, and he could hardly conceive how the walls could be caught. But, of course, an ignoramus could produce almost any injury—even punching a hole through the bladder. He had once cured a case of fistula, and was subsequently called to attend the same woman in labor. He delivered with forceps, knowing full well the danger, and was unable to prevent a fresh laceration and rupture of the septum. But he had the satisfaction of saving the child and afterwards of again curing the mother. To Dr. Ingals' question, he replied that prolonged pressure might cause danger. He thought that when the head seemed impacted and neither advanced nor receded, forceps should be used. He had seen one case where a severe laceration or rupture had been produced by the bungling use of the perforator.

As germane to the subject, Dr. Etheridge exhibited a Smith's cleft-palate needle, of English make, which he considered equally well adapted for closing fistulæ. A hollow needle was employed and the suture wire passed through it.

DR. BYFORD exhibited a tumor nucleated from the vesico-vaginal septum, by the descent of the fœtal head. The tumor had bony walls of true cancellous tissue, and on opening it there were found hair, irregular, small bones, and sebaceous matter. Its longest diameter was about 10 cm. He considered it a dermoid cyst which had developed in the anterior vaginal wall.

DR. C. T. FENN reported the autopsy of a case of gall stone, which caused an abscess, with destructive changes in the vicinity of the gall bladder; the abscess finally breaking into the pylorus.

DR. HAYES also showed a large gall stone, weighing 15-6 grams, taken from a patient that died of shock following ovariotomy. She had never complained of anything to excite suspicion more than pain in her right side.

ARTICLE X.

TRANSACTIONS OF THE CHICAGO GYNÆCOLOGICAL SOCIETY. Third Meeting, December 27th, 1878. D. T. NELSON, M.D., in the chair.

DR. E. O. F. ROLER read a paper upon placenta prævia, with the report of a fatal case (published in the present number of the JOURNAL AND EXAMINER).

DR. W. H. BYFORD: The subject of placenta prævia is one of great interest to every practitioner of midwifery, and our knowledge in reference to its management must be correct and immediately available to be of use to the patient. Dr. Roler's paper is commendable for its candor, research and the tone of positive convictions growing out of great experience. Not the least valuable feature of the paper is the clearness with which he has placed his conclusions before us. Remarks that might embrace all the points made by Dr. R., would not be desirable, so I will limit myself to such as I deem of most importance.

There is no doubt in my mind that the ovum may be fructified at any point during its transit, and form attachments to any part of the genital canal, from the distal extremity of the Fallopian tube to the cervical canal inclusive. Hence I should expect to

find the placental implantation in cases of prævia at, and partially encroaching upon, the internal os, covering it centrally, and in the cervical cavity. When we remember that the placenta can attach itself to serous membrane—as in ventral pregnancy—the nature of the mucous membrane of the cervix cannot be adduced as an argument of sufficient cogency to prove this impossible. As to the source of the hæmorrhage, I think the opinion expressed by the writer the most plausible. The causes of the separation of the placenta are to be found in the difference in the structure and mode of development of the cervix as compared with the body and fundus. The muscular fibers are larger and more numerous in the fundus and fundal portion of the body, than in the lower zone of the body, and very much more so than in the neck. In normal pregnancy, the development or growth of the fundus is more rapid and more extensive than any part of the body, and the upper part of the corpus more and earlier than the lower, while the cervix is developed last of all. Not only is this true, but the character of development is different in the cervix as compared with the fundus and body. The enlargement of the fundus and body, especially the upper portion, is one of true hypertrophy. All the tissues entering into the structure of these portions of the uterus are increased sufficiently to accommodate that portion of the ovum occupying them without distension. The enlargement of the cervical portion of the organ, however, is partly hypertrophy and partly distension, and, I believe, in a less degree this is true of the lower or cervical portion of the body. The distension of the part of the body near the neck begins in the latter part of the eighth month, and that of the cervix is accomplished for the most part during the ninth month. At any rate, we can satisfy ourselves by examination that it progresses very rapidly during the last month. When gestation is finished, the cervical portion is large enough to contain the head, and its walls are comparatively thin. With this understanding of the structure and mode of development, I am inclined to consider the fundus and body as the contracting parts of the organ, while the cervix is the dilating portion. Probably the implantation of the placenta over, or in the cervix—by virtue of the greater supply of blood to the placental site of the organ—may

to some extent modify the manner of development of the cervix, but it does not entirely do away with the manner of its enlargement. So soon, therefore, as the distension assumes its normal preponderance over the process of hypertrophy, the surfaces of attachment slide upon each other, a number of vessels are torn and hæmorrhage results. In central implantation this occurs early and becomes greater as the time for labor approaches. The treatment should begin at the time of the discovery of the condition, and be perseveringly continued until the cause is removed. It is the teaching of universal experience that a woman is in imminent danger every moment after hæmorrhage has begun. It is seldom that this symptom of placenta prævia shows itself before the fœtus is viable, and its safety depends upon a speedy release from its hazardous relation. Artificial premature delivery, according to the plan recommended and practiced by Greenhalgh, should be performed without hesitation, at the earliest practical moment after the diagnosis is clearly made out.

If our attention is not called to a case until labor has begun—and this will usually occur before term—energetic measures should be instituted, and the patient should not be left until delivery is completed, and the patient revived from the exhaustion usual in the most favorable cases. While I freely acknowledge that no one course of treatment will answer equally well in all cases, and that much must be left to the judgment of the immediate attendant, I believe we can settle upon a plan that will be generally applicable.

The principal means available at such times are the tampon to staunch the bleeding, ergot to promote the expulsion of the contents of the uterus, stimulants and nourishment to sustain the patient. If the hæmorrhage is not so urgent as to render it necessary to use the plug immediately, the evacuation of the liquor amnii will be of great service, not so much for the purpose of allowing the condensation of the uterine walls and construction of the vessels, as to stimulate the uterus to increased expulsive efforts. The evacuation of this fluid does, however, have an immediate effect in causing the presenting part to press upon the placenta and constricting the vessels by muscular contraction.

The tampon should be applied so as to perfectly prevent hæmorrhage. This can be done. I agree with Dr. Roler that cotton in pellets is the best material for the tampon. The pieces of cotton should be moistened with water and each one secured by twine, and the vagina packed so firmly that there is no room for the smallest stream of blood to escape. After the tampon is applied and the hæmorrhage is checked, it should be watched, and if necessary add to it and wait, not for an opportunity and sufficient dilatation to turn, but for the expulsion of the fœtus. While the tampon is being applied ergot ought to be given in full doses. By external examination the presentation can be ascertained, and corrected, and the uterus further stimulated and aided in its expulsive efforts by pressure with the hands upon the fundus and upper part of the body.

In some of these cases the after hæmorrhage is an item of great importance. When the implantation is central, or cervical, there is not sufficient contraction at the site of the attachment to entirely close the severed vessels; hence, although there may not be a large loss, there is a continued drain that may be enough to turn the scale against the already exsanguined patient. This may be materially lessened if not entirely checked by the direct application of astringents, or the hæmostatic preparations of iron. They may be applied by a large swab of cotton introduced up to the bleeding parts, and kept there until coagulation occurs, and then withdrawn. Of course the cautious practitioner will watch the uterus and promote its contraction by the usual means.

DR. MILLER said he fully agreed with the essayist regarding the cause of placenta prævia, viz., the ovum dropping in the cavity of the uterus till it is obstructed at the inferior segment, to which it becomes attached, and at that point the placenta is developed. The subject introduced this evening leads to the enquiry: What effect is produced in the uterus by pregnancy? Prominently the enlargement of the volume of the organ by increased nutrition. In normal pregnancy the development is manifested first in the fundus, and progresses downward till finally, in the last months of gestation, the cervix and os uteri are affected. Is the inferior portion enlarged by mechanical distension? He would associate with the theory of stretching, the

idea of tension, then as a consequence, would not the tissue become firm and more resisting? We observe, however, that the tissue of the os and cervix becomes softer and more relaxed as term approaches. When the os uteri is felt hard and resisting, some pathological condition would explain it, in the supposed case.

In placenta prævia, the os and cervix are not thin, but much thicker than in normal pregnancy, in obedience to the law that the portion of the uterus to which the placenta is attached, is increased by more active nutrition, enlargement of vessels, sinuses, etc.

He inclines to the theory that the hæmorrhage in placenta prævia is due to vital action in the tissue of the uterus. The placenta is passive, the uterus is active. The placenta is developed by the end of the fourth month. No new elements enter into its composition after this period. The chorion villi have disappeared. After this period of gestation, the cervical zone of the uterus is developed; it is enlarged, by a process of growth, beyond the enlargement of the placenta; as a consequence, the attachment at and near the os uteri becomes so feeble that the weight and current of blood in the vessels and sinuses of the parts involved, rupture the feeble connection, and hæmorrhage follows. The hæmorrhage is "*unavoidable.*"

In regard to treatment, the suggestion made by Greenhalgh: that labor should be induced when the fœtus has attained viability, is worthy of consideration, and adoption. The dangerous hæmorrhage usually takes place after the seventh month. After this period, the uterus may be excited to action, while the attendant is present to observe the progress of the labor, and render assistance at the moment it may be required, and thus he may preserve the life of the child, and save the mother.

If hæmorrhage commences before the fœtus has become viable, it may be checked by a properly applied tampon, by position of patient, and by other means. But when desirable to excite uterine contractions during the hæmorrhage, the os uteri should be *strongly* compressed, and the upper part of the vagina *greatly* distended by the tampon. When the contractions of the uterus have been established, their efficiency may be increased by evacuating the liquor amnii.

The reason why cases sometimes terminate favorably, without assistance, when the placenta has been completely separated spontaneously, is doubtless because from the first the uterus contracts with energy.

Barnes would lead us to believe that safety in placenta prævia depends upon the *practical* separation of the placenta. Is this true? The essayist has answered the question in the negative; and this is what should be expected. If the irritation attending the partial separation should excite the uterus to efficient contractions, it is conceivable that the presenting part might be forced against the separated portion of the placenta, and this against the open vessels and sinuses of the uterus, and thus hæmorrhage be stayed, but unfortunately for the theory involved, the uterus does not always thus respond.

The source of the hæmorrhage he believed to be both from the separated portion of the placenta, and from the uterine vessels.

In answer to the question as to what material he used for a tampon, Dr. Miller said a strip of cotton cloth like a common roller, one end of which was introduced and the remainder carried up till the vagina was sufficiently filled. He had used sponges, but they were not always to be had at the time they were needed.

DR. CRAWFORD, of Monmouth, Ill., who was present by invitation, expressed his interest in the subject under discussion, and inquired how early in pregnancy a placenta prævia could make itself known. He narrated a case under his observation of a woman who suffered a violent hæmorrhage at the fifth month. By plugging the loss was arrested. The hæmorrhage recurred, however, at the sixth and seventh months, and during labor. The plugging was repeated each time, and the woman and child survived the labor. In answer to a question, Dr. Crawford said that his was a case of partial placenta prævia.

DR. DUDLEY: Previous to the year 1672, I believe, there is no record that any man recognized placenta prævia. Cases of dangerous flowing in puerperal women occurred, but no satisfactory reason was given. When the placenta was found at the os internum, it was supposed to have been detached from its normal position, and to have remained in its detached position.

In 1672 Paul Portal made investigations which resulted in the discovery of placenta prævia. I do not know that he suggested any very efficient means of treatment. His investigations passed out of mind and were lost. In the next century his discovery was independently re-discovered by several eminent obstetricians. They, in their turn, so far as I know, made no valuable suggestions of treatment. Forty years ago nothing was known of placenta prævia more than Portal knew in 1672.

Within forty years valuable additions to the means of treatment have been made, and among them is the tampon, introduced one hundred years ago, by Leroux; the water bag; puncture of the membranes, and detachment of the placenta. But even now, on the authority of Sir James Simpson, the mortality in placenta prævia is frightful. His statistics show that about one-third of all the mothers die, and about one-half of the children. We are, therefore, far from the position where we may rest and call the work done.

The practice of delivering prematurely, mentioned by Drs. Byford and Miller, was first described by Greenhalgh, of London, in 1866, but from the comments then made upon his pamphlet, it was evident that this practice was not uncommon among the leading obstetricians in Great Britain.

In 1868, Thomas, of New York, published several cases. Then supposing himself to be the pioneer in this treatment, and not knowing that Greenhalgh had anticipated him.

The reasons for premature delivery, *i. e.* delivery two months before term, are so obvious that it is remarkable that it was not thought of earlier, and much more remarkable that the practice is not more commonly employed. The question on the part of the mother is, shall we deliver at eight months before she has become exsanguined from loss of much blood, when we may be present during the entire progress of labor prepared to meet any emergency, or shall we wait until term, with the possible chance that death from sudden hæmorrhage may occur at any time and before aid can be called, and then deliver when the patient has become exhausted from repeated hæmorrhages and constant anxiety. But the question on the child's part is, does he have a better prospect at eight months out of the uterus, dependent upon

pulmonary respiration, or shall he remain in the uterus, dependent upon placental aëration, which must necessarily be impaired proportionately to the amount of hæmorrhage, and then be subject to all the danger of perhaps a powerless labor in placenta prævia.

Dr. Thomas reports eleven cases treated by premature delivery, and of these only one mother was lost, and she died of puerperal septicæmia. Three of the children were still born; all of the remaining eight did well but one, who died in a few hours after delivery.

This gives Dr. Thomas in his eleven cases a percentage of about thirty-six deaths on the part of children, and a percentage of about nine on the part of mothers,—a vast improvement upon the statistics of Simpson. In all obstetric operations requiring a speculum, I am satisfied that Sims' is more applicable than any other, and should be more generally used. There is no doubt but that the tampon may be applied more efficiently through Sims' speculum than by any other means.

After introducing the speculum, pack as much cotton as possible around the cervix, distending the vaginal cul-de-sac to its uttermost, then partially withdraw the speculum and again introduce its blade in front of the cotton, and by making pressure backwards with the speculum you will have almost as much room for packing the cotton as before any was put in. The speculum may be thus withdrawn and re-introduced until the vagina is full. The amount of cotton possible to introduce in this manner, and therefore the amount of pressure about a bleeding uterus is really remarkable. Let me repeat that so valuable an instrument as Sims' speculum ought to have more general use in obstetrical operations.

DR. SAWYER: There are two points in connection with the subject before the society upon which I desire to speak.

First, I would ask if there is any evidence that an ovum once entirely or partially separated from its usual site near the fundus can form new attachments in the lowest zone?

This question is suggested by the history of a case under my observation, of a lady who, finding herself pregnant much against her wishes, made many efforts to rid herself of the ovum.

Among other measures, she described how she attempted to pass a male elastic catheter into her uterus, at least a dozen times during the first three months of pregnancy. Near her term I was first called to her on account of an alarming hæmorrhage, at midnight. I discovered a presentation of the placenta, and learned the history already narrated. She seemed anxious to confess to me, and demanded to know if her criminal attempts would explain the hæmorrhage, which was something that never happened in her previous pregnancies. A few weeks later, the unfortunate lady fell in labor and lost her life. An examination of the elliptical placenta revealed that its very center had been implanted over the internal os uteri. This fact was shown by an area of smooth fibrous-like tissue upon the uterine surface of the placenta, which apparently had formed no attachment with the uterine tissue.

The inquiry was raised: If this ovum was implanted over the internal os in the earliest days of pregnancy, would not the passage of the cathether have so disturbed its attachments that it would have been thrown off by the uterus? I know it will be offered that it is improbable that the catheter entered the uterus at all. But I am inclined to the belief that once, at least, the woman did traverse the ora, because the last effort, she told me, was followed by a profuse hæmorrhage, which so alarmed her that she was constrained to desist from further trials.

Is it unreasonable, I submit, that the ovum may have been dislodged from its usual site near the fundus by the instrument, say in three-fourths of its circumference, at an early period of gestation before the withering of the primitive villi, and have rolled down into the most dependent part of the uterine cavity, and there formed new attachments, while the remaining undetached villi were sufficient to insure the integrity of the ovum until the new attachments were completed?

Another point is one which I have never seen alluded to in the books, namely, the friability of the uterine tissue upon which the placenta is developed. In the case just referred to, the uterus was removed and examined immediately after death, and I was chagrined to find a tear which involved the entire thickness of the tissue proper of the uterus, but not the peritoneum, and

about four inches in length—the entire length of the elongated neck,—upon the right side, at the junction of the anterior and posterior walls.

It was easy to mark out the placental site, and the ease with which this part was torn in my hands compared with the tearing of tissue at the fundus was something striking.

In the labor I used no undue violence. I experienced no difficulty in introducing my hand through the ora, nor in performing version. The chin of the large child passed over the right side of the neck, and may have caused the rupture. It is proper to add there was a constant dribbling of blood after delivery, though the post-partum contractions were complete; and this loss may have somewhat increased the shock which destroyed the patient.

This case recalled another which was under my care three years before. The woman survived the first shock from a labor with complete placenta prævia, but developed, within the first forty-eight hours, an attack of pelvic cellulitis, confined to the right half of the pelvis. Puerperal mania supervened, and death occurred on the fourteenth day after delivery. In this case version was performed, and the chin of the child (the latter weighing thirteen and three-quarters pounds) passed over the right side of the cervix. I am not able to say that the uterine tissue in the latter case was torn; in fact the speculum was never used; but the very rapid development of the cellulitis has led me to think that there was some lesion as its point of origin.

In the light of this experience I would, in future cases, use extreme care in all procedures which would stretch the uterine tissue in the cervical zone, upon which the placenta is attached.

A peculiar state of the cervix early in the labor in one of my cases of placenta prævia, is of sufficient interest, I think, to be spoken of in this connection. Its form was that of an inverted funnel. The external os was fully three centimetres in diameter; the internal os, on the contrary, barely admitted the end of the index finger, which impinged against the placental tissue. The length of the cavity of the cervix was as great as in the unimpregnated state. This state of things existed at term, when labor had actually begun; it shows the conservatism of nature

in maintaining the spincter-function of the internal os, so that the placental attachment should not be disturbed until the external os was partly dilated. It also shows that the cavity of the cervix is not always merged into the cavity of the body of the uterus during the last days of pregnancy, as is usually held.

Finally, it has seemed to me that in point of grave significance the slight over-lapping of a flap of the placenta upon the cervical zone—and which is known by the ominous name of partial placenta prævia,—bears no comparison to a central implantation of the placenta.

Within a few weeks I have attended a labor, in which, during the very earliest moments of the first stage, there was an escape of blood, much more than what is known as the show, but not enough to occasion any alarm. The edge of the placenta was easily accessible upon the mother's left side. The pains were moderate, but soon the head fairly engaged, with the occiput posterior and to the woman's right side. The labor progressed and terminated favorably for both mother and child with absolutely no unusual interference.

DR. FITCH: I have but little to say upon this subject. I have enjoyed the paper and discussion, and feel better prepared to treat a case of placenta prævia than before.

My experience in this has been somewhat similar to that in puerperal inversion of the uterus. During my practice of 27 years, I have had but two or three cases, and none of them complete or central; not one of them requiring any special treatment.

Dr. John Bartlett read a paper on this subject, at the last regular meeting of the Chicago medical society. The plan of treatment suggested by him was to carry an instrument on the index finger, secured by a ring, into which the point of the finger passed; from this ring, and the point of the finger, extends a spear with serrated edges (if I understood him correctly), with which he pierces the placenta and then introduces through the opening thus made, a Hobbs' dilator, which, at the same time, acts as an efficient tampon and dilator. This device I think very ingenious, yet I am satisfied that the principal objection to this operation is that the complete separation of the placenta

from the uterus, by hydrostatic pressure would almost necessarily follow, and the consequent death of the fœtus.

With regard to the source of the blood in this hæmorrhage, I believe that Dr. McKinzie has demonstrated the fact on the bitch that the principal part of the blood, if not all, comes from uterine sinuses.

DR. JONES called to mind the advice of the venerable Dr. Jonathan Knight, of Connecticut, who proposed that alum in powder or in lump, be used at the commencement of every tampon, whether the hemorrhages were "accidental" or "unavoidable." His own experience substantiated Dr. Knight's confidence in its hæmostatic value.

DR. NELSON: It has been my fortune to escape from most of these cases of placenta prævia. I have had but one case myself, though I saw Dr. Roler's case as reported, two days before delivery, and I have always felt very uncomfortable about that case, especially after I learned the unfortunate result of it, fearing I did not do my whole duty. I believe when such a case is discovered, so near term as this was, it should never be left without a medical attendant ready to act when necessary; for usually the greatest danger is the loss of blood occurring before the arrival of the physician. Probably no other result could have been obtained in this case if the woman had had skilled attention constantly from the time I saw her till Dr. Roler was finally called.

As to the cause of these unfortunate cases, I wish to emphasize the diseased condition of the mucous membrane of the uterus, such that when the fecundated ovum reaches the interior of the uterus, the mucous membrane does not respond as it should to retain the ovum in its depressions at the fundus, but from its unnatural smoothness, and the quantity and quality of the secretions, the ovum glides down to the inner os, and there forms its attachments, producing a case of placenta prævia or perhaps, fortunately escapes from the cervix and is entirely lost.

The only case of placenta prævia I have had myself, and that only partial, was in a patient I had treated for several months for chronic metritis. Dr. Roler's patient, I understand, had also been treated for chronic inflammation previous to this preg-

nancy. One, at least, of Dr. Sawyer's cases had had a severe pelvic cellulitis, resulting in abscess, and was subsequently treated for chronic metritis and perimetritis, during the most of a year previous to her last pregnancy.

It may be said, if chronic inflammation of the uterus is the cause of placenta prævia, this accident should be much more frequent. I reply that, fortunately, if the fecundated ovum does not become attached at the fundus of the uterus, it is usually passed from the cervix entirely, and the woman does not become pregnant. In all the cases I have seen, I am very sure the placenta was implanted within and over the internal os, not upon the walls of the cervical canal.

ARTICLE XI.

WEST CHICAGO MEDICAL SOCIETY. REPORT ON CHEMISTRY.

Read to the Society by J. H. SALISBURY, M. D.

In this paper I shall not attempt to give an account of all the discoveries made during the year, but shall note only those which bear more or less directly on the practice of medicine.

The liquefaction of the gases is one of the most important discoveries made during the past year. The discovery was made almost simultaneously by Cailletet, of Paris, and by Pictet, of Geneva.

The method employed for oxygen is briefly as follows: Oxygen gas is generated in a closed retort until the pressure equals 320 atmospheres. This retort ends in a tube which is surrounded by another tube, in which a temperature of 140° C. is obtained by the evaporation of carbonic dioxide, under greatly diminished pressure.

When the pressure in the retort in which the oxygen is generated has reached 320 atmospheres, a stop-cock is opened and some of the gas is allowed to escape. One portion of the greatly condensed gas in expanding, abstracts sufficient heat from the rest, which is already greatly refrigerated, to reduce it to the liquid condition. The temperature of this liquid has been supposed to be absolute zero.

This discovery seems to confirm the position of hydrogen as a metal. Liquefied hydrogen is described as an opaque bluish liquid, which, in falling on the ground, produces a metalic ring.

Prof. Selmi obtained from the bodies of persons, who had died a natural death, several substances possessing the general characters of the alkaloids, and has found that they are derived from the spontaneous decomposition of the corpses. Some of these substances are fixed, others volatile; some soluble in ether, others insoluble in that medium, but soluble in amylic alcohol; others again insoluble in both these liquids. Generally the fixed cadaveric alkaloids yield a precipitate with almost all general re-agents. They yield color re-actions, which, however, are not produced in certain cases, according to the conditions of putrefaction.

These compounds are easily oxidized, and turn brown on exposure to the air, evolving a peculiar urinous odor; at other times the smell is like that of conia, and sometimes they exhale an odor like that of certain flowers. They generally possess a pungent taste, which benumbs the tongue. Sometimes the flavor is bitter.

Some of these compounds have no effect upon animal life, but others are powerfully poisonous. The symptoms produced by them are transient dilation of the pupils, slackening and irregularity in the pulsations of the heart, and convulsions. After death the heart is found contracted and void of blood.

Prof. Haines, of Chicago, discovered one of these alkaloids previously to Prof. Selmi, and described it in a paper read before the Chicago Chemical Society last winter. He found that it varied somewhat with the degree of decomposition. The alkaloid extracted by Dr. Haines was not poisonous.

It is important to bear in mind the occurrence of these substances, as otherwise an inexperienced analyst might be misled and suppose that he had found poison when he had not.

Some experiments of considerable interest to the medical profession were made by J. J. Coleman, of Glasgow, on "The digestive power of malt liquors."

Finding that during an illness he was greatly benefited by a liquid somewhat like ale, which he calls Hoff's liquid, and which

increased his digestive power for starchy food, he determined to examine it.

A certain amount of bread was digested in a given amount of Hoff's liquid, made slightly alkaline for from six to twenty-four hours. A blank experiment was carried on at the same time, in which the same amount of bread was digested in water made slightly alkaline.

Comparative experiments were made at the same time with different specimens of beer, ale, and porter. The average result of the experiments was as follows:

Burton ale, dissolved	15	per	cent.	of	the	starch in the bread.
Wrexam ale, dissolved	26	"	"	"	"	"
London porter, dissolved	40	"	"	"	"	"
Hoff's liquid	60	"	"	"	"	"

These experiments show a remarkable solvent power of malt liquors on starch. The author states that the dissolved solids partook more of a gummy than of a saccharine character.

The dissolving or digesting agent is not alcohol, for the stronger ales did not act so powerfully on starch as the weaker ones. Dr. Haines has repeated these experiments with American beers, and found the same digestive power, only in a lower degree. This he attributes to the poorer quality of the beer in America, as according to the admission of some Milwaukee brewers, corn and other grain is substituted for malt to a large extent.

Dyalized iron has been recently used as an antidote for arsenic. For this purpose it possesses great advantages over ferric hydrate as it can be kept on hand while ferric hydrate must be recently prepared to act with efficiency. Dyalized iron requires to be mixed with some neutral salt before it can act efficiently as an antidote. This neutral salt is ordinarily furnished by the gastric juice, but lest for some reason the gastric juice should fail to furnish this necessary condition, the dyalized iron should be followed by a teaspoonful of common salt, mixed, if possible, with a little calcined magnesia, or other alkaline substance to neutralize the acid of the gastric juice.

A number of cases of arsenical poisoning which have been successfully treated by dyalized iron have been reported, thus confirming the results of experiment.

The presence of arsenic in the preparations of bismuth has excited some attention during the year. In some experiments made by the author and published in the June number of the JOURNAL AND EXAMINER, arsenic was found in thirteen out of eighteen specimens of the sub-nitrate of bismuth, the largest quantity being 1-5 of 1 per cent.

J. W. Underhill, M. D., relates a case, in the *Lancet and Clinic*, in which he gave sub-nitrate of bismuth to his child for eleven days, when the child began to show marked symptoms of arsenical poisoning. The sub-nitrate of bismuth was examined and found to contain 15-100 of 1 per cent. of arsenic. Another specimen showed the presence of 24-100 of 1 per cent.

These facts show that the administration of sub-nitrate of bismuth for a long time and in large doses is dangerous, unless the sub-nitrate is known to be pure.

It is interesting to note the number of organic compounds now made by synthesis from their inorganic elements.

The artificial manufacture of indigo has been made possible during the past year by the discovery of a method of making isatin, which, being deoxidized gives indigo.

The manufacture of artificial alizarin has caused many acres formerly devoted to the culture of madder, to be devoted to other purposes.

Benzoic acid may be successfully made from inorganic sources.

Ether, alcohol, acetic acid, chloroform, hydrate of choral, croton chloral hydrate, urea, nitrous ether and many other compounds, may now be made from their inorganic elements.

These advances point to the time when it may be possible to manufacture cheaply the medicines which are now obtained at great cost from their natural sources.

I will close what I have to say with the following words from an address by Prof. Crooks:

"Most medical men look on chemistry as a kind of adjunct to pharmacy—a knowledge of which will prevent them from poisoning their patients or from puzzling their pharmacists by prescribing a series of incompatibles. To such we would put a simple question: How is it that although the chemist during the last ten years has discovered many thousands of definite compounds possessing

the most multifarious chemical, physical, and presumably physiological properties that not half a dozen of these have been applied to the relief of human suffering or the saving of human life? Is it possible, even according to the vulgar doctrine of chance, that there are no compounds lying *perdu* on the shelves of the chemist's laboratory that would prove as powerful weapons in the hands of the physician, as chloroform, chloral, or amyl nitrite?

"The field open to the medical student in this direction is surely vast enough to content the hardest worker, and would surely be fruitful enough to satisfy the highest ambition."

ORIGIN OF AMNIOTIC FLUID.—Gusserow. (*Arch. f. Gynäk. XIII.*)

In 1871 G. demonstrated that soluble substances would pass by way of the circulation from mother to child, and from the latter to the amniotic fluid. He claims that this fluid is not only an exclusively fœtal product, but that during the later months of pregnancy it is mostly secreted by its kidneys.

Runge and Schmiedeberg proved that the conversion of benzoic into hippuric acid occurs only in the kidney. If hippuric acid be found in the urine of the fœtus after the mother had taken benzoic acid, the former must perforce have been formed in the kidneys of the fœtus, the blood carried to the latter being charged with benzoic acid. So, if hippuric acid be found in the amniotic fluid it must have been formed in the kidneys also, for if that fluid were merely a transudate, benzoic and not hippuric acid would be present.

Gusserow shows in a striking way that both the urine and amniotic fluid of the child contain hippuric acid when one to two grams of sodic benzoate were administered to the parturient several hours prior to rupture of the membranes

From these and such experiments as the injection of strychnia, he is led to believe that the amniotic fluid is mainly an excretion of the child, though it may have other minor sources.

Foreign Correspondence.

ARTICLE XII.

PROF. CHARCOT AND HIS EXPERIMENTS AT LA SALPÉTRIÈRE.

I brought with me from America a letter of introduction to Prof. Charcot, and visiting the Salpétrière soon after my arrival in Paris, in August, 1877, was fortunate in presenting it. At the same time an English physician of considerable eminence had called on the renowned neurologist, and we thus had the opportunity of seeing several of his demonstrations in private.

Although his experiments and their apparent results seemed to me something remarkable and inexplicable, I did not at the time, attribute much importance to them from a practical point of view, especially as Prof. Charcot was himself, *then*, undecided as to whether or not his new theories would develop to the point of utility in the treatment of these cases.

When I returned to Paris in the Autumn of 1878, and began attending Prof. Charcot's regular lectures at La Salpétrière, I found him more enthusiastic than ever regarding his new facts, which he went on to demonstrate in several discourses.

Such interest has the subject of his lectures elicited, that I saw among his attentive listeners, such men as Virchow and Martin, of Berlin, and many other renowned men of our profession. Not only on the Continent, but in Great Britain, his teachings are attracting so much interest, that I am induced to give the following summary of them, to the exclusion of matters which, I, myself, consider of more practical interest. Though it is Prof. Charcot upon whom, as a public teacher, the interest in this subject is at present directed, it was a Dr. Burge who claims to have

made the first discoveries in this direction. The latter first published his views, I believe, in 1876.

On my first visit to La Salpétrière I was shown two female patients, one about eighteen and the other twenty-three years of age, who were both the victims of frequent attacks of what Prof. Charcot denominates "Hystero-Epilepsy." One of these patients, the younger, had had these convulsions for the last two years very frequently, sometimes even to the number of fifty and one hundred in the twenty four hours. In spite of all this her intellect was not in the least affected; and that fact, in connection with this, that no period of cerebral congestion followed the fits, as in true epilepsy, are valuable aids in making a differential diagnosis between the two diseases.

These girls were both completely hemi-anæsthetic. On the side that was insensible, a large darning-needle could be passed through the skin without the least sensation being perceived by the patient.

METALLO-THERAPEUTICS.

But the most wonderful of the phenomena in these cases, was that by the application of certain metals or a large horse-shoe magnet to the side that was deprived of sensation, this abnormal condition would change from the side to which the metal was applied, to the one that had been before entirely normal. In one of these patients, who was anæsthetic on her *left* side, Prof. Charcot applied a twenty-franc gold piece to the outer aspect of the left arm, and after the expiration of three minutes it was found that a small circle around the gold coin had regained its sensibility, while at the same time a corresponding surface on the *right* arm had lost all sensation.

At the end of ten minutes the patient was completely anæsthetic on her *right* side, and had regained sensibility on her *left*.

Prof. Charcot said that some persons were susceptible to one metal and some to another, and brought forward the second patient in whom he produced exactly the same phenomena as in the first, by using a copper plate instead of a gold coin. He also stated that in all these cases there existed an ovarian tenderness on the side that was anæsthetic.

But the practical part of this matter as claimed by both Dr. Burge

and Prof. Charcot is, that the metal to which the patient is susceptible, or in other words, that which will change the anæsthetic condition from one side to the other, is the remedy that is indicated in the treatment of each particular case.

To the patient who was sensible to gold, he was giving daily .02 gramms of the chloride of gold and sodium.

To the patient who was sensible to copper, he was giving .3 grams of the hydrated binoxide of copper three times in a day. Through last year Prof. Charcot said he had not used these remedies sufficiently long to test their efficacy; this year in his public lectures he declares that the medicines have been in each case highly beneficial in lessening the frequency of the attacks, and improving the general condition of the patients. Still, he did not admit that in any instance he had been able to effect a complete cure.

Although the principles involved were the same as in the experiments I had seen Prof. Charcot perform in private, in his public lectures he greatly extended them, and brought forward a number of new cases to illustrate his subject.

In one case the entire throat was so entirely anæsthetic that the Doctor could irritate the epiglottis with his finger without producing the slighest reflex phenomenon.

A copper plate, 3 by 5 centimeters, was tried over the front of this patient's throat for seven minutes, at the end of which time she was so sensitive that any attempt at passing the finger into the pharynx brought on violent attempts at vomiting. The hystero-epileptic patients who were hemi-anæsthetic had many of them another remarkable symptom, and that was complete color-blindness on the side that was insensible.

In the case of a girl eighteen years of age who was anæsthetic on her right side, the left eye was closed, and red, blue, green and orange-colored cards that were passed before the right eye, were all pronounced by the patient as *white*.

The copper plate that had been bound on to the throat of the previous patient, was bound on to the right temple of this one, and in five minutes she could accurately discern colors with her right eye, but was as completely color-blind in her left, as she had previously been in her right. The migration of sensibility

and sense that these persons experienced upon the application of the metals was, in every instance, only temporary in character, as, after the expiration of a variable period of time, say from ten to thirty minutes, the old condition of hemi-anæsthesia was found to exist on the side at first affected.

A woman, 47 years of age, who had passed the menopause was presented, who had been the victim of hystero-epileptic attacks from her early womanhood, a case demonstrating the fact that this disease will not always cease with the cessation of the menses.

This patient had had for years a permanent contraction of the flexors of the fingers and hand of the right side. A large horse-shoe magnet was placed near the outer aspect of the right arm, and in about five minutes the rigid contractions in the muscles of this side began to give way, and in ten minutes she was able to use freely and without restraint the right hand, but the condition of contraction had been transferred to the flexors of the left hand.

The transposal of this abnormal condition only lasted for a few moments after the magnet was removed, for in fifteen minutes her right hand presented the same appearance as when she entered the room.

During his second lecture Prof. Charcot brought on to the platform two patients whom I recognized at once as those upon whom I had seen him experiment in 1877. They were seated in chairs near each other; and an immense tuning fork placed between them. This instrument was then struck, and when it began to sound, both girls with perfect accord fell into a cataleptic condition. Their eyes widely opened seemed to gaze with a vacant stare at some far-off object. Their hands, arms, and other parts of their bodies could be placed in any given attitude and would thus remain for an indefinite period of time. They could be aroused from this condition by suddenly blowing into their faces, or pressing upon the ovary that was sensitive.

The sudden flame of a light from an electric lamp thrown into the eyes of these patients, or even the fixed gaze of Prof. Charcot's eye, would produce the same phenomena. From this cataleptic condition, if not disturbed, the patient would pass into

that of a somnambulic state. Prof. Charcot said: "This is the condition into which animal magnetizers plunge hysterical persons, and, during its persistence, they cause them to perform mystical acts such as walking in the dark, describing absent persons, distant places, and the like. From this condition I arouse this patient by pressing suddenly upon one of her ovaries. She may not be entirely herself for a quarter of an hour, but will soon regain her normal condition."

In his third lecture Prof. Charcot brought into the lecture-room a girl about 20 years of age lying upon a cot, dressed in a long garment, the sleeves and legs of which extended far beyond the hands and feet, and to which were attached long pieces of cord to control her during her convulsive paroxysms. The patient had an aparatus around her body (a new invention of Dr. Poirier), constructed something like a tourniquet for compressing the abdominal aorta, but in which the pad was made to press upon the right ovary. This truss was removed from this patient, and she at once went into a series of violent convulsions. During the time of these attacks Prof. Charcot gave a minute description of each phase of her symptoms.

As to the diagnosis he said: "Of the affection, as distinguished from true epilepsy, we have first to observe that the fits always occur during the waking hours of the patient.

"Again, they never fall down in the street in convulsions, for they have always premonitory symptoms that last a sufficient length of time to allow them to seek a place of safety before the attacks occur.

"Each paroxysm consists of a certain regular and definite series of evolutions.

"First, you see this patient extends her arms over her head, then gradually draws them down over her abdomen, and, after keeping them in a tonic spastic condition of contraction for a few seconds, she begins a series of active clonic spasms.

"This stage in which the patient is at present, is the epileptiform period of the attack.

"There is no physician of experience who, stepping into this room at this moment and viewing this patient for the first time, but would diagnosticate her case as one of *true* epilepsy.

"Our patient, after these clonic spasms are over, will remain quiet for a few seconds, and then the attack will resume its hysterical type again, *phase des grands mouvements*, in which you see she executes a series of rapid to and fro movements with her entire body. When these *grands mouvements* are over, the next stage of the attack begins, which is *la phase des attitudes passionelles*, in which, raising herself to a sitting posture, she alternately strikes an attitude and wears an expression of fear and hatred, and then of joy and extreme bliss.

"At one time she will see horrid objects that approach her, and in the next moment her visions are of the most fascinating kind, and she hears the strains of sweetest music.

"After these last phenomena have occurred, our patient will remain quiet for an indefinite period of time, and will then execute again the same series of movements and attitudes as before."

After the doctor had allowed her to undergo these convulsions sufficiently long to illustrate to his hearers all their different stages and symptoms, he pressed firmly with his closed fist on her right ovary, and the patient, heaving a long sigh of relief, the convulsions ceased at once.

The instrument for the production of continuous pressure was replaced, and in five minutes she was again in a normal condition.

The hystero-epileptic attacks with these patients usually occur without immediate exciting cause, although fear and anger have a tendency to develop them.

There is, in most of them, an *epileptogenic zone*, which may be situated in any part of the body, and which, being pressed upon, or in any way irritated, will throw the patient at once into a violent series of convulsions.

Prof. Charcot, just before the close of one of his lectures, showed a person in whom he said this sensitive zone was at the last cervical vertebra.

As the girl stood in the hall through which the students passed as they went from the lecture-room, one of them took occasion to verify Prof. Charcot's assertion by suddenly pressing his finger on this point of her spine. The poor creature fell down as suddenly

as if shot, on the stone floor, and went into convulsions of as violent a character as I ever saw.

Dr. Oulmont, Prof. Charcot's interne, soon made his appearance, and coming down with the whole weight of his body upon the right ovary of the patient with his closed hand, he was soon able to arrest the paroxyms.

Prof. Charcot closed this lecture by showing us, by means of a magic lantern, copies of paintings of the old masters, representing persons as being possessed of the devil, and priests casting them out, in whom the attitudes and expressions of the persons represented were an exact counterpart of some phase or stage in the hysterical attacks of the patients he had shown us.

WHAT IS THOUGHT OF PROF. CHARCOT AND HIS TEACHINGS.

A vast majority of those who listen to Prof. Charcot at La Salpétrière have such an implicit faith in the integrity and wisdom of the man, that they believe that he could not be deceived by the patients upon whom he operates, and would present nothing to his hearers in which he *himself* had not the most unbounded faith.

The great Claude Bernard evidently believed these phenomena to be genuine, for, after witnessing them just before his death, he was perfectly astounded at their manifestations, and exclaimed, "*these facts show us how little we know.*"

Although this represents the sentiments of that portion of the profession who are thrown in immediate contact with Prof. Charcot, it is far from being generally adopted outside of Paris and France.

Here, in Berlin, the first evening that I went to hear Prof. Westphal, he brought out for the subject of his lecture an hystero-epileptic patient.

This patient was fifty-three years of age, and was what Prof. Westphal designated as a true type of hystero-epilepsy which has been of twenty-five years duration. She was nearly idiotic, thus showing that the disease *does* effect the intellect.

He claimed that the nice points in the diagnosis of this disease as given by Prof. Charcot, could not always be recognized in practice.

A case like this might be one of *genuine* epilepsy affecting a person of hysterical temperament, in which one could not always decide, as to where, in any given attack, the hysterical element ends, and the epileptic begins.

He went on to refute the generalized statement that one could arrest the paroxysims by pressure upon the ovaries, so that ovarian tenderness was a prominent symptom attending them.

He said that he and Prof. Schröder had experimented upon a number of cases by making *direct* pressure upon the ovaries by combined manipulation through the vaginal and abdominal walls and had found that the ovaries were not generally in the least sensitive. Besides he was of the opinion that Prof. Charcot, with his mode of manipulating, *did not in one case out of five touch the ovary.*

Furthermore in the single case of a male patient, whom he had had under observation and who had all the symptoms of genuine hystero-epilepsy, he was able to arrest the paroxysms as effectually by firm pressure into one of the iliac fossæ as Dr. Charcot had been able to do in his cases, where he had *supposed* he was pressing upon a sensitive ovary.

He believes that the arrest of the convulsive attacks in these cases is due to a general reflex action produced by pressure upon the pelvic nerves.

After this lecture, I had a private interview with Prof. Westphal, and he, knowing that I had just came from Paris, began at once to question me as to what I had seen of Prof. Charcot's doings at La Salpétrière. Finding him skeptical as to the genuinenesss of the entire phenomena of metallo-therapeutics I asked him his explanation of Prof. Charcot's experiments.

He told me then promptly that, much as he had formerly admired the great French physiologist, in this matter, Prof. Charcot was playing the part of a mountebank and juggler. I then asked him what object a man of his standing could have for taking such a course. "Money! money!" was his reply. At this juncture we were interrupted or I should have interrogated Prof. Westphal farther; for, to me, it is inconceivable that a man of Prof. Charcot's standing should take the course in this matter that he does, unless he firmly believes in what he teaches;

besides, I cannot see how he can make money from his demonstrations and lectures, as all of them are free.

As bearing upon this subject and giving, in my view, the best explanation I will close the article by giving the following history of a case as published by Dr. Hughes Bennett, in a late number of the *British Medical Journal:*

In August, 1877, a woman 44 years of age, was admitted to Dr. Bennett's wards, having for four years been the subject of a variety of nervous attacks, without real convulsions. She was in tolerable health but was entirely anæsthetic on her right side. Needles passed through the skin of the side, and the most powerful Faradic currents produced no sensation. The left side was nearly natural.

From Aug., 1877, to April, 1878, the patient was treated by tonics and electricity, but without any effect; in fact the paresis and anæsthesia had become more marked. The attention of Dr. Bennett having been called to the subject of metallo-therapy by some published accounts of Prof. Charcot's demonstrations, he (Dr. B.,) resolved to put his patient upon this treatment.

Accordingly the patient was blindfolded, so that she could not see what was doing, and discs composed of various metals as gold, silver, copper, lead, zinc, and tin were applied to the anæsthetic side without producing the least effect.

After Dr. Bennett had tried these experiments repeatedly, and was convinced that no result would follow, he invited several medical friends to witness them. At this time he applied a zinc plate to the arm, and after it had been on for twenty minutes the patient said she felt a tickling sensation in the part, and, to the Doctor's surprise, he found that slight pricks of a pin could be felt. A few moments later, sensibility had returned to the side so long insensible. Twenty-four hours after this experiment, the right side was found in its original anæsthetic condition.

It was now found that *all* the metals that had before failed to produce an effect upon this patient, would each, when applied, produce a temporary return of sensibility to the parts. At this juncture Dr. Bennett applied two discs of wood upon the arm, and found that after they had been on for a few moments, sensi-

bility had returned to the side exactly as when *metals* had been used.

The result of all this was, no marked benefit to the patient, and some months later she was sent to the seaside. Dr. Bennett deduces from this, that the reason why he produced no effect upon his patient in his first experiments was that she was entirely ignorant of what results were attempted to be attained.

When he had summoned his friends in order to demonstrate to them that Prof. Charcot's results were not obtainable, lo, the very phenomenon that he was positive would *not* occur, did actually happen; and why? Simply because it was necessary for him to make some explanation of the subject in the presence of his patient. As soon as she knew what *effect* was intended to be produced, that effect followed.

Dr. Bennett closes his review of this subject in these words: "There are always those who, either from an involuntary bias of mind, or from a natural credulity in what appears marvelous, seem to think that what is difficult of explanation must of necessity be true. Thus does the spiritualist and the electro-biologist pledge his faith to what his reason cannot comprehend, and what he perhaps honestly believes to be genuine.

"As well might one credit the reality of the tricks of a conjuror, because it baffles all our efforts to appreciate the steps by which he deceives us.

"In all these hypotheses, the more we eliminate sources of error, the more that unprejudiced observers investigate the subject, and the more that stringent tests are applied, the more easy and simple do we find these 'inexplicable phenomena' become.

"It may be that metallo-therapy, the most recent of the doctrines which have flattered the psychological world, is doomed to an early grave, to be resurrected in the future in some other novel and more attractive form." W. S. CALDWELL.

BERLIN, Jan. 1, 1879.

DIPHTHERIA was named from the skin of the goat Amalthea, on which Jove wrote the destiny of man.

Domestic Correspondence.

ARTICLE XIII.

BOSTON LETTER.

MESSRS. EDITORS:—The profession of medicine in Boston has a strong but quiet flow. Much goes on which comes to the knowledge of but few outside of certain circles. It is almost odd that here there is a lack of that medical gossip which is a strong, a pleasant and a useful characteristic in other cities. I suppose there is no city in the country in which medicine is more reserved and retiring than in Boston. We are decidedly and essentially conservative. It might be a difficult matter to discover the reason of this—to trace back to its original causes the very calm tone of the medical mind in this city. It doubtless would be still more difficult to say why it is that in this fruitful age of medicine, the men here who carry the responsibilities which are laid upon them by great opportunity and wealth of material, are so silent toward that great world of medicine which awaits, expects and longs for revelations from the comparative few who hold the golden key to a treasure house which here is opened, not freely, not generously, but only to a favored few. In justice to the younger men, however, and notably the specialists, I should say that this surprising conservatism is almost wholly a fault, for it is a fault, of the older men. The young physicians of Boston have plenty of that sort of enthusiasm which leads one at once to impart to the profession at large, not only all new facts, new data, new effects of medicines, new discoveries in medical science, but also any modifications of facts already known. But they do this in spite of a chilling influence which arises from the marked reserve of the older men, many of whom rarely touch a pen in

behalf of medical publications, so that much which would benefit our common cause remains unwritten, and but for the students and occasionally the medical societies of Boston, would likewise remain unspoken and unrevealed. Why is this? Is it apathy? Is it lack of a sympathetic desire to advance the medical knowledge of the many? Is it heedlessness of responsibility? None of these reasons explain the facts; for the interest of these men in all that pertains to medicine is deep and intense. The kindest explanation of this reserve and silence is, that habit is the cause, habit which has become more powerful than the desire to break it. And yet the men to whom I refer are men of great ability, of unusual acumen, of large intelligence and profound learning. They should be known throughout the country, but with some exceptions they are not known to any degree out of the State. If this seem exaggeration, I would ask you, with how many standard, original medical works you are familiar which were written in Boston within the past twenty-five years? It is weakness in a medical man to write a book unless he have something new to say, or a new and better method of presenting a known subject. But it is impossible that men who are mature in knowledge, rich in experience, hard students, keen diagnosticians, and who control and handle a vast amount of material, have not something to say which would increase the knowledge of every man who read or heard it. If one see a common fault which might easily be removed, should he not frankly bring it into notice, especially if he do so with the sincere and earnest hope that his frankness may be suggestive? This is my apology for bluntness in alluding to men whose power and ability have won my sincerest respect, and whose light, let us hope, will be set upon the house-top before they depart. For, every mind of power should work not only for the present but also in behalf of posterity.

On the other hand, we point with pride to those reports on the progress of medicine, surgery, and kindred branches which are published in the *Boston Medical and Surgical Journal*, and which are accumulating in quantity and value. Published in book form they would be invaluable for reference. These reports are the work of young men, who are not mere harvesters of the fields of

other men's planting, but whose intelligent and critical opinions and experience increase the usefulness of this history of the growth of medicine in all its relations. Probably, then, in the coming 25 years, this habit of writing on the part of young men will give a far different complexion to the future medical history of Boston from that which has characterized it during the past quarter of a century. After completing their studies at the Harvard Medical School, quite a large proportion of the city men go abroad. Indeed, where the means to do so are forthcoming, a year or two in the German schools is rather the rule than the exception. The effect of this has been apparent for some years in the more generous recognition of specialties here than is the case in other cities. But it can be said with perfect truth, that specialists in Boston are not confined to the narrow path of their choice, for in almost every instance there exists a good, solid foundation of experience which has been derived from hospital and general practice.

This removes a large share of that prejudice against specialties which is a common feeling of the older medical men everywhere. And it must be confessed that without a foundation of general medical knowledge, the pursuit of a single branch of medical science, has a tendency not only to make a man narrow, but its influence is liable to give him a one-sided view of his cases

I think I may say that our medical societies compare favorably with those of other American cities, for, if our older men do not write, many of them are faithful attendants of, and active participants in, our Society meetings. Their presence gives a firmer and maturer tone to discussions, and exerts a wholesome influence upon younger men of lax tendencies. Our most democratic meeting is that of the Suffolk District Society, a branch of the State Society. It is attended by every class of medical mind, while the smaller associations, the Society for Medical Improvement and the Society for Medical Observation, are composed of men who, for the most part, are constant students and steady workers; thinkers—men who have opinions and are able to express them. The first of these societies devotes itself mainly to pathology and possesses a fine anatomical collection, now in keeping of the Medical School. The other occupies itself with clinical dis-

cussion and research. In the Suffolk District Society, any subject which has a direct or indirect bearing upon medicine is in order. There are various other societies which I will not at present mention. But I may say that in the Harvard Medical School is an organization of great educational value. This is the Boylston Medical Society—composed of students, presided over by a physician who is elected by the active members, the object of the Society being to stimulate emulation and inquiry among the students. It was organized in 1811. The beneficial effects of this association are at once apparent. The members become habituated to discussion of medical topics; they become familiar with parliamentary laws; they learn how to prepare papers, and since the subject of papers which are read at the meetings are announced beforehand, the active and ambitious are led to read and make themselves ready for discussion. By this means, too, they are prepared to do good work in the societies of which they may become members in the future. This society should be imitated wherever medicine is taught. There are other features of medical teaching in the Harvard School, which not only make it the most desirable school in the country, but which are peculiar to it. In a future letter I will give you interesting details of the management of this department of Harvard University. Its adoption of a higher and more stringent standard of education was a bold move. It was an indication of the purity of the desire of the faculty of teachers to raise the educational level of the school, and to improve the quality of their graduates—for, in order to accomplish this desire, every man of the faculty was obliged to make personal sacrifice by yielding a portion of his salary. If this be not an evidence of sincerity, show me a better. Everybody knows that the great stumbling block in the upward path of other successful medical schools, is the fear lest the yearly income become smaller. This hyperæsthesia of the pocket nerve is what prolonged the discussion of the question of higher standards at the University of Pennsylvania, and which keeps other medical schools in the trammels of the old-fashioned, unsystematic olla podrida plan of teaching. So far as the Harvard School is concerned, the change

has been a perfect success. The quality of the students has become vastly improved, and the value of the dioploma, of course, is above that of any other American school. For while the standard at the Medical School of the University of Pennsylvania has been raised. there is no preliminary examination, and other requirements are not so strict as in our school. In making the change in the plan of education, the authorities of the Harvard School were obliged to assume risks which Dr. Henry J. Bigelow tersely expressed as follows: 1. "The reduction of the salaries of the professors. 2. Reduction of the hole of escape for students. 3. Putting the students through a preliminary sieve." The possible effect of these conditions, however, was cordially and bravely assumed, with results which simply make us all proud of the school which never has been more successful. Moreover, it is so conducted, the opportunities for clinical and surgical teaching are so wisely and shrewdly used, and such a variety of specialties stands upon the roster, that the necessity for going abroad is no longer urgent. Students can not only become accomplished in any branch of medicine they may elect, but are not obliged to leave the school upon graduation, for they may at once enter upon the "post graduate course," which is open to older physicians as well as to recent graduates, and comprises *fourteen* special studies taught by accomplished men who have have received special training. It is a matter of surprise that the *New York Medical Record* was not aware of this course. In the edition of December 28, an editorial in that journal gravely suggests that the time has come for some school to take the "initiative" in giving lectures and instructions to physicians. This plan has been successfully pursued at the Harvard School for several years. The faculty is very much in earnest in giving the school the most modern methods of teaching, and in acquainting its students with every new and approved fact in medical science. These remarks are merely introductory to much which I shall have to say hereafter.

Within a few days we have followed to the grave two Boston physicians of high fame, Dr. Jacob Bigelow, father of Dr. Henry J. Bigelow, and once so active as teacher, author, physician, and

scientist, and Dr. J. B. S. Jackson, the distinguished pathologist. Dr. Bigelow was formerly a Harvard professor; was ex-president of the American Medical Association; was long a president of the American Society of Arts and Sciences, and was the oldest member of the Massachusetts Medical Society. His work on "American Medical Botany;" his work on "Nature in Diseases," and other medical and literary publications are well known. It was to his influence that the inauguration of our excellent Institute of Technology was mainly due. Indeed he was the first to bring into use the term technology, in its present signification. He was also the wise founder of our beautiful Mount Auburn Cemetery, whose architectural beauties were designed by him and which has served as a model for similar places in our country. Dr. Bigelow has lived so long in retirement that many of the present generation never have seen him.

He died at the unusual age of ninety-one years, following close upon the steps of a man whose age was venerable but who was so much younger than Dr. Bigelow, that he was born in the same year in which Dr. Bigelow graduated from Harvard. Jackson died at the age of seventy-two. He was a pathologist of such enthusiasm that his whole life has been devoted to his beloved specialty. For many years he has been professor of pathology in the Harvard School. He was a pathologist of the old school. He was not a microscopist. But his unaided eye often told the truth when the microscope failed. His life was bound up in the Warren Anatomical Museum and the Cabinet of the Society for Medical Improvement. His catalogue of the former is an octavo volume of 750 pages. That of the latter amounts to 350 pages. The earnest faithfulness with which he devoted himself to the arrangement and description of these two collections cost him half a life time, but the museums have a world-wide fame, and they form a lasting monument to the profound pathological knowledge of Dr. Jackson.

* *

BOSTON, Jan. 22, 1879.

ARTICLE XIV.

To the Editors of the Chicago Medical Journal and Examiner:

GENTLEMEN:—In the January number of your journal, Dr. Tucker calls attention to "Tincture of Thapsus" (*sic*), and states that "it has long been a favorite remedy with the so-called 'eclectics,' whose leading pharmacist first called my attention to it." The doctor has fallen into error as regards the name of the plant whose virtues were well known long ago in Europe and even in this country before the revolution. It was formerly called the *thlaspi bursæ pastoris*, but is now named by botanists *capsella bursæ pastoris*, the English name of which is "shepherd's purse." The *Cincinnati Medical Gazette* for Nov., 1878, a journal which appears to be an organ of the "Physio-Medical" sect, contains the following:—"CAPSELLA BURSA PASTORIS.—Some eighteen months ago, Dr. Rademacher, of Germany, spoke highly of this plant as a remedy for irritable bladder," etc.

The *Chicago Medical Times* for Jan., 1879 (an eclectic journal), contains an article on capsella bursa pastoris, illustrated with a wood-cut. In the article we find that: "Dr. Carl Kissel states that, 'it is a vascular remedy, healing affections which appear as chronic diarrhœa, inflammation of the kidneys with sediment of uric acid,'" etc.

The foregoing quotations exhibit a curious mingling of fact and error, and as I have personally used the drug with satisfaction for some time past, I will endeavor to clear up the confusion a little. Under the name Thlaspi burs. past., SCHOEPF (*Materia Medica Americana*, Erlangen, 1787, p. 103) speaks of it as astringent, and useful in hæmorrhages. In Europe it had long been known as a domestic remedy, but Rademacher was the first to give it prominence. In his curious work entitled, "*Rechtfertigung der von den Gelehrten misskaunten verstandesrechten Erfahrungsheillehre der alten Scheidekünstigen Geheimärtze*," —2 vols., Berlin, 1846–7—he speaks of the "Herba Bursæ pastoris" as follows: "*Dieses Kraut galt in der alten Welt für*

eine blutstillende Arzenei." Dr. Carl Kissel was one of Rademacher's followers, and speaks of the drug in his work entitled "Die Heilmittel Rademachers und der naturwissenschaftlichen Therapie," Giessen 1859. My own attention was first called to it by my friend Dr. Frankel of this city, who referred me for further information to the work last mentined. I have used it with satisfaction in cases of irritated bladder in doses of 10 to 30 drops of the tincture sold in homœopathic pharmacies under the name of "Thlaspi." If it should come into frequent use, I would suggest that the old pharmaceutical name, *tinct. bursæ pastoris*, be retained. Respectfully yours,

H. G. PIFFARD, M.D.

NEW YORK, Jan. 20, 1879.

FATAL POISONING BY OIL OF CHENOPODIUM.—(*Maryland Medical Journal*, Nov., 1878.)—Dr. T. R. Brown reports the case of a hypochondriac, who imagined himself to be suffering, among other difficulties, from intestinal worms. For this the doctor recommended an ounce of castor oil with twenty drops of turpentine. The patient procured an *ounce and a half* of wormseed oil and added *thirty* drops of turpentine. Within a few hours he acted strangely, his gait being unsteady, face pale and anxious, etc. Following this he sank into a heavy slumber, vomited during sleep, was aroused without much difficulty, but sank into the same sleep again unless constantly diverted. Within two days he became very deaf to sounds of the voice, but acutely sensitive to noises and jars about the house. This was succeeded by an aphasic attack, coming on slowly, and increasing; and this by paralysis of the right arm, pyrexia, unilateral convulsions (right side), involuntary dejections, icterus, general opisthotonic convulsions, coma and death on the fifth day.

No *post-mortem* was allowed. So far as the author knows this is first case of fatal poisoning by this drug on record, though fatal cases have happened before.

Editorial.

ARTICLE XV.

ANENT MEDICAL JOURNALS.

The second semi-centennial of the existence of the *Boston Medical and Surgical Journal* is fitly begun by the publication of an interesting and valuable communication by Dr. J. S. Billings, of the U. S. Army, on the subject of the medical journals of the United States. The article fills nearly fourteen pages of type, and some idea of its character may be gained from the fact that ten of these pages, in small type, are fully occupied by a complete list of all the medical journals that have ever been published in the country, arranged according to States. The history of medical journalism in Illinois is almost the history of the varying fortunes of the CHICAGO MEDICAL JOURNAL AND EXAMINER, as may be seen from the following extract:

"ILLINOIS.—The *Illinois Medical and Surgical Journal.* Monthly. Edited by J. V. Z. Blaney. Chicago. Vols. I.–II.; 1844–46. 8vo. Continued as the following: The *Illinois and Indiana Medical and Surgical Journal.* Bi-monthly. Edited by J. V. Z. Blaney, D. Brainard and others. Chicago. Vols. I.–II. 1846–1848. 8vo. Continuation of the preceding and continued as the following: The *Northwestern Medical and Surgical Journal.* Bi-monthly. Edited by W. B. Herrick and J. Evans. Chicago. Vols. V.–XIV. 1848–57. 8 vo. Continuation of the preeeding and continued as the following: The *Chicago Medical Journal.* Monthly. Edited by N. S. Davis and W. H. Byford. Chicago. Vols. XV.–XXXI, 1858–1875. 8vo. (*) Continuation of the preceding and consolidated with the *Medical Examiner,* Chicago, forming the following: Vols. XXV. and XXVI. Semi-monthly. THE CHICAGO MEDICAL JOURNAL AND EXAMINER. Edited by W. H. Byford and others. Chicago. Vols. XXXII–XXXVII. 1875–1878. 8vo. Current. Formed by the consolidation of the preced-

* Between the years 1858 and 1875 many changes occurred in the editorial staff. At the date of the consolidation in 1875, the *Chicago Medical Journal* was edited by Prof. J. Adams Allen, assisted by Dr. Walter Hay, late of this city.—[ED.]

ing with the *Chicago Medical Examiner*. The *Northwestern Medical Intelligencer*. Bi-monthly. Chicago. 1851. 8 vo. This alternated with the *Northwestern Medical and Surgical Journal*, of which it formed a part. The *Chicago Medical Examiner*. Monthly. Edited by N. S. Davis and E. A. Steele. Chicago. Vols. I.–XII. 1860–1871. 8 vo. Continued as the following: The *Medical Examiner*. Chicago. Semi-monthly. Edited by N. S. Davis and F. H. Davis. Vols. XIII.–XVI. 1872–1875. 4to. In September, 1875, united with the *Chicago Medical Journal*, forming THE CHICAGO MEDICAL JOURNAL AND EXAMINER."

The other journals of the State are registered as follows:

"The *Military Tract Medical Reporter*, L. S. & C. A. Lambert. Galesburg, Ill. Prospectus issued in August, 1871, but the journal never appeared. The *Chicago Journal of Nervous and Mental Disease*. Edited by J. S. Jewell and others. Chicago. Vols. I.–II. 1874–1875. 8vo. Continued as the following: The *Journal of Nervous and Mental Disease*. Edited by J. S. Jewell and others. Chicago. Vols. I–III. New series 1876–1878. 8vo. Continuation of the preceding. *The Medical Register and Advertiser*. Quarterly. Edited by J. I. Hale. Anna, Ill. Nos. 1–2. Vol. 1. 1875. 8vo. The *Monthly Journal of the Southern Illinois Medical Association*. Edited by C. W. Dunning and H. Wardner. Cairo. Vols. I–II. 1877–'78. Vol. I. in six numbers. Current. The *Illinois Medical Recorder*. Monthly. Edited by R. E. Beech. Published under the auspices of the District Medical Society of Central Illinois. Nos. 1–6. June to November. 1878. 8vo. Current. The *American Medical Review and Index*. Monthly. James I. Hale, editor. Anna, Ill. Nos. 1–3. July to September. 1878. 8vo. Current."

Looking at the table of mortality statistics of medical journals throughout the country, we find that of 247 titles commenced (in 1,630 volumes), in ten cases only one number was issued; in twenty-one cases the first volume was never completed; in sixty-one cases there was no survival beyond the first volume; in thirty-nine there was no survival beyond the second volume; and but fifty-three journals of the entire number are now current. These facts furnish in themselves a fertile commentary upon the reasons for which many of the smaller journals exist—journals which have been published,—"not for direct profit, but as an indirect advertisement, or—and this is more common—the desire to have a place in which the editor can speak his mind and attack his enemies without restraint."

We could wish that Dr. Billings, or some other writer of equal ability, might have the courage to further divide the fifty-three survivors into two classes—the one to represent the journals which are conducted with a view solely to the advancement

of science, the others to include those which are the pure and simple advertisements of individuals, medical schools, or dealers in drugs. Though we have often referred to the subject before in these pages, we venture to repeat here that the real prosperity of THE CHICAGO MEDICAL JOURNAL AND EXAMINER dates from the hour when its management passed into the hands of the body of the profession in this city, and its two predecessors ceased to be the organs of the two leading medical schools of Chicago. It is a curious commentary on this divorce, that the medical colleges referred to have actually benefited by the change. The stock of the Chicago Medical Press Association is held by eighty-three prominent professional gentlemen of this city, who represent every institution and phase of medical interest.

We have carefully perused the list of the fifty-three surviving journals and have deliberately concluded that but from fourteen to twenty are of any permanent value to the profession, and worthy of general circulation or to be sent abroad and handed down to posterity as fit exponents of American medical periodical literature. Some of the others possess no value whatever apart from the gleanings which they regularly make from the crops carefully harvested by their more thrifty neighbors. Some are absolutely worthless, judged from any stand-point, and a few are undeniably worse than worthless—they are dangerous and disgusting parasites upon the body medical.

Of this latter class are the cheap publications which aim to be classed as medical journals, but which are really the clumsily disguised advertising sheets of certain pretentious drug-houses of doubtful reputation. Some of these have lately embarked in the business of attempting to add several doubtful "novelties" to the *ruda indigestaque moles* of the drug lists. Though exposed in one instance, an exposure which it is to be hoped will not be without effect upon the others, one can still see in their pages brief certificates from "physicians" in various parts of the country as to the singular value of this or that "remedy." The names of these endorsers are usually unknown in any other connection, and will be vainly sought among the list of contributors to really scientific periodicals. Some of them, we blush to say it, have pushed their trashy reports into the proceedings of

State Societies. Others figure as authors in the absurdly incongruous Materia Medica lists of the homœopathic journals.

The sterling common sense of the mass of the physicians throughout the country must supply the remedy for this evil. We call upon every good man, who values his own reputation, and who cares for the elevation of the standards of the profession he has chosen, to contribute money for the support of the best medical journals, and of these only. In this connection we do not ask such to subscribe for this particular journal. The subject is one of such importance that if the desired result could be completely attained by the suppression of this periodical, we would gladly make the sacrifice in the interest of the profession at large. But the MEDICAL JOURNAL AND EXAMINER happens to be one of the very few publications of the country that is neither a piece of private property nor an organ. It has advanced to the first rank of American journals, by the observation of the very principles which are now emphasized. Content with its own position and circulation, it urges the medical men of the United States to cease contributing to the support of the weakly publications that eke out a miserable existence on the pabulum of the advertisement.

It is the duty and interest of every physician in the land to support heartily the best of our journals, and none other. Let it be understood that it is a stigma upon one's reputation, that his name has appeared in an obscure advertising sheet in connection with the endorsement of a questionable "novelty" in drugs, or even as an author. And we call upon the editors of the respectable medical journals of America to refuse an exchange with every periodical of doubtful character and provincial position. That will be a bright day for medical journalism in the United States, which sees the organization of an Associated Medical Press, membership to which will be restricted to the managing editors of really good journals in existence, the privilege of membership and exchange to be granted only by unanimous consent of those already in enjoyment of these privileges. Under such an arrangement, advertising firms and book publishers might cease to offer a premium for mediocrity and worthlessness in the periodical medical literature of our land.

ARTICLE XVI.

THE LAW AS TO THE COMMITMENT OF THE INSANE, IN ILLINOIS.

One of the first things done at the present session of the legislature of this State, should be a thorough reconstruction of the law relating to the commitment of the insane.

As the case stands at present, it is, or should be, well-known, that it is necessary to drag the insane person, male or female, young or old, or physically infirm, and their friends with them, from their homes, often at the cost of distressing inconvenience, to a public examination in a court room, amid a crowd of lawyers, on and before a jury, composed, at best, of average non-professional citizens, selected at random, largely ignorant of the subject upon which they are to pronounce. The only relief provided lies in the fact that *one physician* is required to be placed on the jury.

Besides the inconveniences of the present system there is to be objected against it, that it frequently happens that plain cases of insidious or even dangerous insanity are declared under it, to be sane, and are set free, to the annoyance and danger of friends and neighbors, or to the peril of their own lives, where the tendency is suicidal, because the jury very naturally happens to be ignorant of the more uncomman forms of mental unsoundness, or of the symptoms of such disease in its incipient stages. Then again there are but few families or persons not more or less reluctant to making a public spectacle of their friends while in a state of insanity. The present system has fostered and will continue to foster, the feeling which pervades the minds of the people, that insanity is not simply a disease,—an affliction, but a disgrace. This sentiment, quite natural under the circumstances, has often prevented, and will continue to prevent such cases from being promptly reported, and hence directly tends to prevent them from being early placed under suitable treatment. But these and other disadvantages could be quietly borne, if the present system were the best that could be devised in the interest of pub-

lic and private justice. But it is so plain that there is a better way, that there is no valid excuse for delaying action.

The system we need in Illinois is the one adopted long since in many of the Eastern States and in the most enlightened foreign countries. It is usually embodied in a simple law, creating commissioners in lunacy. These are generally composed of two or more medical men of standing and experience, and a magistrate or lawyer, the appointment of the commissioners under the law being delegated to the judges of the courts within whose jurisdiction they are to act.

These commissioners may be either temporary or permanent, and be ready to act when and where the exigencies of the insane require.

The action of this commission, as suggested by Dr. Patterson, of Batavia, in his recent letter, might be supplemented by a jury trial before the courts as at present, if requested by the parties interested. The advantages of such a mode of procedure, as compared with the one at present in vogue are so manifest that it seems surprising all do not see them at once.

A more intelligent, and it may be maintained, a more just judgment would be reached than by the present system, and the Commission could act any day, instead of one day in each week, or every two weeks, and could, and would, when necessary, as it often is, visit the residence of the patient. By all means let the present law be at once modified, in conformity to more advanced ideas, and thus the present piece of clumsy legislation be forever removed from our statute books.

ARTICLE XVII.

THE JOURNAL OF NERVOUS AND MENTAL DISEASE.

Our only journalistic collaborator in the field of regular medicine in this city, the *Journal of Nervous and Mental Disease*, commences with the present year its sixth volume. Though started under difficulties that might have deterred many from such an enterprise, it has risen to be the recognized organ of the neurologists of this country, and has achieved an international

reputation. That is not a narrow specialty it covers, but one possessing interest for every physician who is above mere routine practice.

We take the highest pleasure in again commending our journalistic contemporary to our readers and correspondents.

INFLUENCE OF MOTION ON BACTERIA. B. A. Horrath. (*Pflüger's Archiv. Bd. XVII, p.* 125.)

From the fact, that bacteria injected into the circulation disappear rapidly from the blood-vessels, and are only found in the lymphatics, H. supposed, that a relative rest is necessary to the growth and multiplication of these organisms. In order to test this view, he introduced bacteria into a nutrient fluid composed of 10.0 grams neutral tartrate of ammonium, 5.0 acid phosphate of potassium, 5.0 sulphate of magnesium and 0.5 chloride of potassium in 1 litre water, (Pasteur's fluid.) Glass tubes were filled partly with this fluid, partly with air and sealed. The tubes, which were left undisturbed at a temperature of 24° C, were soon turbid with living bacteria. A number of tubes, however, were attached to a board, which was shaken about a hundred times a minute by a water motor. By this incessant motion, further growth of bacteria was checked, but if the tubes were set aside after 24 hours shaking, bacterial development again occurred. When, however, the motion was kept up for 48 hours the organisms were killed absolutely. (*Centralbl, f. Chir.* 1878, No. 43.)

WHICH ELECTRIC CURRENT TO USE IN NEURALGIA.) *Med. and Sur. Reporter.*)

Dr. Rockwell says: "I find the effects of pressure are exceedingly useful. I would not lay it down as a law, but it will be found in the great majority of cases of neuralgia that where firm pressure over the affected nerves *aggravates* the pain, the galvanic current is indicated; while the Faradic current has the greater power to relieve when such pressure does not cause an increase of pain."

Reviews and Book Notices.

Article XVIII.—Cyclopædia of the Practice of Medicine. Edited by Dr. H. Von Ziemssen, Professor of Clinical Medicine in Munich, Bavaria. Vol. XVII. General Anomalies of Nutrition and Poisons. By Prof. Immermann, of Basel; Prof. R. Boehm, of Dorpat; Prof. B. Naunyn, of Königsberg; and Prof. H. Von Bœck, of Munich. Translated by W. Bathurst Woodman, M. D., and J. Burney Yeo, M. D., of London; Edward S. Wood, M. D., of Boston; Charles Emmerson, M. D., of Concord; Porter Farley, M. D., of Rochester; A. Brayton Ball, M. D., and Elwyn Waller, PH. D., of New York. Albert H. Buck, M. D., of New York, Editor of American Edition. New York: Wm. Wood & Co.

The profession is so familiar with the plan and character of this great work that it has come to anticipate before a new volume is finished what it will be, so that a complete review of the volume before us scarcely seems to be demanded here. We are safe in saying that Vol. XVII. will not fail to meet the highest expectations of the profession. If some of the preceding volumes have been more practical than this, none certainly have been more interesting.

The first part of this volume is devoted to general anomalies of nutrition, by Prof. Immermann. Under this heading are considered in an exhaustive and intensely interesting manner, three diseases—hæmophilia or bleeder's disease, scurvy and purpura hæmorrhagica.

Part second, comprising more than two-thirds of the volume, is devoted to poisons.

Poisoning by metalloids, acids, alkalies, earths and their salts,

anæsthetics and other poisonous carbon compounds, and poisoning by tainted articles of diet, is considered by Prof. Boehm.

The article on alcohol poisoning is full and interesting, but alcoholism is not discussed as a distinct disease and no specific is offered for its cure. We were surprised to find that among the remedies for delirium tremens no mention is made of bromide of potassium.

In the discussion of chloroform and ether Prof. Boehm shows a decided preference for the former, as an anæsthetic. He admits that "the published cases of poisoning by ether are very few and bear no comparison at all with the number of cases of poisoning by chloroform. However, this is not so much due to the greater safety of ether, but rather to the fact that while the use of ether has steadily diminished that of chloroform has as constantly increased." We heartily concur in Dr. Edward Curtis' note of criticism where he says, "The enormous clinical experience with ether in America, overwhelmingly disproves the inference made above. There is no escape from the conviction that ether kills so seldom, simply because it is so safe," etc. In the treatment of chloroform or ether poisoning we had thought elevating the feet of the patient of sufficient importance to at least demand notice, but we do not find any mention of it here.

Poisoning by the heavy metals and their salts, including arsenic and phosphorus, is discussed by Prof. Naunyn. Vegetable poisons are considered by Prof. Von Bœck. W. T. M.

ARTICLE XIX. — THE PATHOLOGICAL ANATOMY OF THE EAR. By Herrmann Schwartze, M.D., professor in the University of Halle. With the author's revisions and additions, and with the original illustrations. Translated by J. Orne Green, A.M., M.D., Aural Surgeon, Boston City Hospital, *etc.* Boston: Houghton, Osgood & Co. 1878. Chicago: Jansen, McClurg & Co. 8vo; pp. 174. Price $2.00.

We could not introduce this very interesting book with any better commendation than that of the translator. He says in his preface: "Schwartze's Pathological Anatomy of the Ear" constitutes the sixth part of Kleb's "Handbook of Pathological Anatomy." It is the only comprehensive work strictly devoted to

the pathological anatomy of this organ, and on account of the opportunities and devotion of the author in this special field, his well-known thoroughness and strict impartiality in scientific researches, it is a most valuable addition to the literature of otology. It is essentially a hand-book on the subject of which it treats."

The language is concise and lucid; the text, richly illustrated; the translation, faultless; and paper and press-work are of that excellent quality so characteristic of the productions of American publishers.

We have read the book with great pleasure, and wish it all the success it justly deserves. F. C. H.

ARTICLE XX.—GUY'S HOSPITAL REPORTS. Third series, vol. XXIII. Edited by H. G. Howse, M.S., and Frederick Taylor, M.D.

This volume sustains the reputation of its predecessors. It opens with a paper by Dr. W. A. Brailey, on "Astigmatism in its Relation to Headache and Certain Morbid Conditions of the Eye." He relates fourteen cases showing how the increased effort at accommodation caused various ill effects of such a nature as described in the title, and how they were all relieved by adaptation of proper cylindrical glasses.

Dr. Frederick Taylor, in his illustrated article "On Unilateral Atrophy and Spasm," relates a case of atrophy of one side of the brain, with co-existent atrophy of the other side of the body.

A remarkable feature of the case is that the cerebellum was atrophied on the side opposite to the portion of the cerebrum involved. After some interesting remarks concerning the pathological features of the case, he reports nine cases which had been admitted into the hospital at different times.

Dr. Wilks gives a long account of some unpublished papers left by Dr. Hodgkin. Unfortunately we can not give the detailed summary of many of those which we would like; suffice it to say that they can only increase the admiration of the reader for the broad attainments and truly scientific character of their writer — pioneer as he was in a great field of pathological research.

Dr. Savage contributes a very readable paper on "The Treat-

ment of Insanity, more especially by Drugs." In it he reviews his experience with the cold shower bath, opium, chloral, camphor chloral, succus conii, hyoscyamia, physostigma, purgatives, stimulants, electricity, etc. He makes some excellent points. Among other notes he thinks he has found physostigma of some slight benefit in cases of general paralysis of the insane.

Mr. Higgens gives a short account of some cases of "Tumor of the Orbit," upon which he had operated.

Mr. Cooper Forster, in his essay on "Stricture of the Urethra," enters a plea for general dilatation, even in most severe cases, claiming that divulsion or section are never necessary, and they are always followed by more or less cicatricial shrinkage.

Dr. Taylor follows with "A Contribution to the History of Idiopathic or Pernicious Anæmia," in which he glances at the early literature of the subject, and then gives a collection of twenty-three cases.

Mr. Jacobson furnishes a description of three cases where he followed the method of supracondyloid amputation of the thigh recommended by Gritti and modified by Stokes. The cases were severe, and he was eminently successful in getting rapid recoveries with very useful stumps. Two plates illustrate his article.

Mr. Golding Bird next follows with three "Selected Cases," one trephining for compression, one of charbon, where there was no bacteria found in the blood, and one of hernia of the ovary—the hernia being inguinal, incomplete and indirect.

Dr. Moxon has a paper on "Chronic Intermittent Albuminuria," in which he describes a mild form of the trouble often met with in adolescents, not accompanied by serious symptoms nor followed by any permanent disorder of functionment.

Dr. Goodhart next contributes some notes on "Some Cases of Diastolic Bruit"; and his article is followed by an essay of over sixty pages, from the pen of Mr. Davy, on "Antiseptic Surgery and Pyæmia." This, as may be surmised, is a plea for the Lister method of dressing; but more than this, the commentary on the five cases reported is excellent, and displays commendable research and reflection. Mr. Lucas contributes notes on the "Termination of a Case of Fracture of the Skull," which he partially

reported in Vol. XXI for 1876. This will be read with interest by those who saw his earlier report.

"A Report on Cases of Tetanus treated in Guy's" is the title of the final paper by Dr. Taylor. He reports fifty-one cases treated by one or more of the following: aconite, atropia, bromides (ammonium and potassium), calabar bean, cannabis indica, conium, potassic iodide, nicotine, amyl nitrite and quinia. Of the fifty-one, eight recovered, but it would be difficult to select any one remedy of those mentioned as superior to the rest, judging from the reports, on the whole, though, calabar bean and chloral seem to have given the best results.

Statistical tables, honor lists, etc., close this volume, which no one can read without profit, and which bears out the high reputation that these reports have always borne. R. P.

ARTICLE XXI.—TRANSACTIONS OF THE PHILADELPHIA PATHOLOGICAL SOCIETY. VOL. VII. Edited by J. H. C. Simes. Philadelphia: J. B. Lippincott & Co.

This neat volume of one hundred and seventy pages, comprises about seventy-five articles, being either reports of cases or pathological reports of committees concerning morbid specimens. Interesting points made during the discussion of these cases are also brought out. The volume contains nothing irrelevant—the cases reported are all worthy of record, and the histological reports are concise and models in their way. To notice the articles, even briefly, would be to reproduce much of the volume. Among them, however, we especially noticed "Cases of Injury to the Skull," by Dr. Ashhurst; "Caries of the Sacrum and Trochanter Major," by Dr. H. L. Hodge; "Abdominal Cancer, Obstruction and Double Uterus," by Dr. Starr; "Pancreatic Induration, resembling Scirrhus and Membranous Enteritis with Intestinal Casts," by Dr. Willard; "Embolic Pneumonia," by Dr. Nancrede; "Interstitial Nephritis," by Dr. Hutchinson; "Cases of Extra-uterine Pregnancy," by Drs. Henry and Pepper, with plates illustrating the articles; "Elephantiasis of the Penis," by Dr. Shakespeare; "Anatomy of the Cerebrum," by Dr. Allen; "Cerebral Abscess and Dilated Bronchi," by Dr. Hutchinson; "A Needle found, Post-mortem, within the Cranium," by Dr. Hodge; and the final paper

by Dr. Nancrede, on "The Causative Relation Existing between the Anatomical Arrangement of Tissues at Various Ages, and their morbid Growths," a very instructive and readable resumé of the etiology of cancer. R. P.

ARTICLE XXII. — PHYSIOLOGY. PRELIMINARY COURSE LECTURES. By James T. Whittaker, M.A., M.D. Illustrated. Cloth. Pp. 288. Cincinnati: Chancy & Murray. 1879.

This little work was published at the request of many of the author's students, and we do not wonder at the request. As one would infer from the subject, the author does not pretend to give an exhaustive account of the extensive field of physiology, but he does what is equally essential: he inspires his readers with the enthusiasm with which he himself is inspired. He takes up the prominently interesting parts of physiology as a man passionately fond of and well acquainted with children, will take them up and talk to them and about them. The book will be of great interest to the student, and a pleasant recreation to the active practitioner. R. T.

ARTICLE XXIII.—HANDBOOK OF NURSING FOR FAMILY AND GENERAL USE. Published under the direction of the Connecticut Training School for Nurses, State Hospital, New Haven. Philadelphia: J. B. Lippincott & Co. Chicago: Jansen, McClurg & Co. 8vo., pp. 266; price $1.25.

This book was originally intended for use at the school for nurses in the State Hospital at New Haven, Connecticut. But the directors of that school will have no occasion for regret that they allowed the book to be made accessible to everybody. It will do much toward the comfort of the many sick who cannot have the care of a trained nurse; for it teaches, in simple language, every woman how her tenderness must be guided by intelligence and knowledge in rightly performing the duties of a nurse. The rules and instructions laid down in this book are comprehensive and practical. The book gives evidence throughout of being the result of the experience of many years, and will prove a desirable addition to every domestic library.

BOOKS AND PAMPHLETS RECEIVED.

The Prophylaxis of Puerperal Convulsions. By E. S. Dunster, M.D. Reprint from Toledo *Medical and Surgical Journal.*

Fourth Annual Report of the Officers and Superintendent of the Asylum at Walnut Hill, Hartford, Connecticut, at their Annual Meeting, Oct. 9, 1875. Also a Petition to Legislature. Hartford, 1878.

Two Lectures on Lister's Antiseptic Method of Treating Surgical Injuries. By J. M. Little, M.D. One of the Series of American Lectures, edited by E. C. Seguin, M.D. New York: Putnam & Sons, 1878.

The Diagnosis of Progressive Locomotor Ataxia. By E. C. Seguin, M.D. One of the Series of American Clinical Lectures, edited by E. C. Seguin, M.D.

Conspectus of Organic Materia Medica and Pharmacal Botany, Comprising the Vegetable and Animal Drugs; their Physical Character, Geographical Origin Classification, Constituents, Doses, Adulterations, etc. Table of the Tests and Solubilities of the Alkaloids appended By L E. Sayre, Ph. G. Cloth, pp. 220; 1879. Philadelphia: D. G Brinton.

Differential Diagnosis: A Manual of the Comparative Semeiology of the More Important Diseases. By F. D. H Hall, M.D. American Edition with Extensive Additions. Philadelphia: D. G. Brinton. 1879.

Diseases of the Abdomen. Comprising those of the Stomach and Other parts of the Alimentary Canal, Œsophagus, Cœcum, Intestines and Peritoneum. By S. O. Habershon M.D, London. Third Edition, Considerably Enlarged and Revised. Cloth, pp. 706 1878. Philadelphia: Lindsay & Blakiston.

Science and Practice of Surgery. Including Special Chapters by Different Authors. By F. J. Gant, F.R.C.S. Second Edition in two Volumes; cloth. 1878. Philadelphia: Lindsay & Blakiston.

Physiology: Preliminary Course of Lectures. By James T. Whittaker, M.A., M.D. Illustrated. Cloth, pp. 288. 1879. Cincinnati: Robert Clarke & Co.

Atlas of Human Anatomy. Illustrating most of the Ordinary Dissections and Many not usually Practiced by the Student, Accompanied by an Explanatory Text. By Richmond John Godlee, M.S., F.R.C.S. Part I. 1878. Paper covers. Philadelphia: Lindsay & Blakiston.

St. Bartholomew's Hospital Reports. Edited by W. S Church, M.D., and Alfred Willett, F.R.C.S. Volume XIV. 1878. London: Smith, Elder & Co.

Transactions of the Medical Society of the State of Pennsylvania at the 28th Annual Session. Held at Pittsburgh, May, 1878. Volume XII.

The Value of Absent Tendon-Reflex as a Diagnostic Sign in Locomotor Ataxia, with an Analysis of Eight Cases. By A. McLane Hamilton. Reprint from *Boston Medical and Surgical Journal.*

Fifty Years Ago. An Address to the Graduating Class of the Medical College of the Pacific for 1878. By H. Gibbons, M.D.

Report of the Quebec Lunatic Asylum for 1876–7.

On a New Modification of the Anterior Splint. By Roswell A. Park, M.D. Reprint from the Transactions of the Illinois State Medical Society, 1878.

Microscopes of the Centennial Exhibition. By J. S. Hunt, M.D.

Sugar Frauds and the Tariff. By H. G. Brown. 1879.

Optic Neuritis with Notes of Three Cases. By C. J. Lundy, M.D. Reprint from *Detroit Lancet*, Dec., 1878.

Brief and Argument for Appellant. N. J. Aiken vs. J. W. Rauch et al.

Annual Report of Pennsylvania Free Dispensary for Skin Diseases.

Artificial Feeding of Infants. By A. Clendinen.

The Testimony of Medical Experts. By W. H. Philips, M.D.

A Case of Acute Puerperal Inversion of the Uterus. By J. Byrne, M.D. Reprint from the *New York Medical Journal*, Oct. and Dec., 1878.

Provision for Insane Criminals. By R. S. Dewey, M.D. Reprint from *Journal of Nervous and Mental Diseases*, Oct., 1878.

Third Bi-Ennial Report of Trustees, Superintendent and Treasurer, of the Illinois Southern Hospital for the Insane, at Anna.

THE first number of the first volume of the *St. Louis Courier of Medicine and Collateral Sciences* is at hand — a handsome octavo of 120 pages, with a wood-cut of John Hunter upon the cover.

We have not so far chronicled the appearance of every new mushroom in the field of medical periodical literature, simply because we had better business in hand. We are pleased, however, to make an exception of the journal named above, for two reasons: first, because it is exceptionally good; second, because it is published by the Medical Journal Association of Missouri, an incorporated body of physicians corresponding precisely to the Chicago Medical Press Association. We gladly recognize this publication as own sister of the CHICAGO MEDICAL JOURNAL AND EXAMINER, and wish it long life and prosperity.

Summary.

Collaborators:

DR. H. GRADLE, DR. L. W. CASE, DR. R. PARK,
DR. R. TILLEY, DR. D. R. BROWER.

SURGERY.

WOUND OF PLEURA AND LUNG TISSUE—LAPAROTOMY TO REDUCE HERNIA. (*Journal de Médecine et de Chirurgie pratiques.*) Hôpital de Bicêtre. Service de M. le Docteur F. Terrier.

X, aged 65, in a struggle received a knife wound in the third intercostal space external to the mamary glands. No pain was experienced at the moment when the wound was inflicted, the man not being conscious of the state until he saw the blood.

On examination he was found to be breathing through the wound. This was demonstrated by a prolonged whistling sound perceived at each respiration, and at each expiration by the flow of arterial blood mixed with large bubbles of air. The wound was two and one-half centimeters in length, and somewhat ragged. The bronchial tubes could not have been much wounded because he vomited no blood, whilst a pulmonary vessel must have been severed in order to account for the effusion of blood, which rapidly attained its maximum and suddenly stopped. The hæmorrhage is supposed to have ceased when the blood filled the pleural cavity to the level of the pleural pulmonary wound. At this moment the wound was closed by sutures and healed by first intention without any untoward symptom. The wound was received on the 15th of June, and the man left the hospital on the 9th of July.

Laparotomy.—X, 63 years of age, had been troubled for twenty years with an inguinal hernia, which was easily replaced.

It was replaced on the 9th of December, but from this date the usual symptoms of intestinal obstruction set in and persisted, notwithstanding all the remedies employed. M. Terrier, supposing there was an internal hernia or invagination which he could not locate, determined to open the abdomen in the median line. At the final examination previous to the operation there was perceived a spot less yielding than the adjacent parts. This was supposed to be the seat of constriction. After making an incision immediately below the umbilicus, eight centimeters in length, and after the opening of the peritoneum, there was found an hernia situated in the anterior abdominal wall where the unyielding spot was discovered. Reduction being effected, the wound was closed and completely healed in ten days. It is thus being daily demonstrated that the wounding of the serous membranes is not necessarily attended with so much danger as was formerly supposed.

PATHOLOGY.

THE POISON OF SYPHILIS.—Klebs. (*Centralbl. f. Chir.* No. 50, 1878.)

At the last congress of German naturalists, Klebs detailed his experiments made to detect the nature of syphilitic poison. If pieces of a Hunterian chancre are placed into a solution of gelatine, a vegetation of fungi is speedily observed. This consists of minute rods, at first of lively mobility, which array themselves subsequently in oval masses. The cultivation of this fungus was continued by transferring some germs into fresh solutions of gelatine. Small quantities of this turbid fluid were placed underneath the skin of a monkey. After six weeks the animal suffered from indurated ulcers in the mouth of a decidedly syphilitic appearance. The autopsy revealed, besides, syphilitic alterations of the dura mater and of the lungs. In another monkey similar syphilitic appearances were caused by direct inoculation with a portion of a Hunterian chancre. Different tissues and especially the blood of these animals placed into solutions of gelatine gave rise again to the above described fungus. Klebs here claims, that this fungi constitute the syphilitic virus, and proposes to call them helico-monads.

Obituary.

ABSTRACT OF A MEMORIAL ADDRESS by Dr. Frederick Andros, delivered before the Northern Iowa Medical Association, Dec. 4, 1878, on the decease of the late DR. JOHN LINTON.

Dr. Linton was born in Breckenridge county, Kentucky, October 5th, 1811. When near his majority he apprenticed himself to a tanner and currier. After perfecting himself in his trade, he left the home of his nativity to seek his fortune in the wilds of the west. In the spring of 1837, he arrived at Prairie du Chien. Here he was employed by the Indian department, filling an important position, until 1842. He then returned to his native State and commenced the study of medicine under the tuition of Dr. Pollard, one of the prominent physicians of Kentucky. In the fall and winter of 1844 he attended medical lectures at the St. Louis University, where he was graduated. In the spring of 1846 he came to Garnavillo, in Clayton county, where he commenced the practice of his profession, and where he remained until his death.

His private life may be thrown freely open to the world, and challenge its closest scrutiny with a consciousness on the part of the critic that there is no blot to be concealed and no glaring fault which a love of truth bids him deny. Here was a man in whose professional or public life there can be found no instance of a mean or equivocating action, none of a departure from the self-imposed restraints of a lofty and refined sense of honor. He trod for thirty-two years the difficult and devious paths to professional preferment and success, and yet kept his robes unsullied by the mire that so often polutes those ways. Though lacking the advantages of a classical education, his life was an instance in which trne greatness was achieved without the aid of

those brilliant qualities whose rare assemblage the world calls genius, but he possessed what is far better, a sound judgment and a resolute purpose to pursue the right and gather wisdom from experience. He had none of that presumptuous confidence in himself which so often misleads its possessor, and which, though dangerous, is still a commanding quality, yet he knew how to inspire the people with a just confidence in the soundness of his judgment and the integrity of his purpose, so as to be looked up to as a man in whom there was safety. But few men have lived among us whose lives have been as long and as active as his, who have secured more lasting friends (and none, I am sure, ever left fewer enemies). Nor was he one of those cold and impassive characters who shed their light without heat; its kindly influence, with a genial and friendly warmth was felt within whatever circle he might move. That man who, dying, can be said to have passed his days without a stain upon his reputation, has justly earned the honors due to a well spent life. Although he has passed from us forever, a fragrance still lingers around his memory, exhaled from the clustering virtues which beautified his character while living.

A sudden cold and over-exertion superinduced the disease which skill failed to alleviate, and on the 27th day of June last, his noble spirit winged its way to the country which we know not of. His religion was embraced in living up to the Golden Rule. The doctor was a firm and sincere believer in an overruling Providence, a Supreme Ruler of the universe, a God of love and mercy. Here was an example of the great truth that life, like the sword of Damocles, is suspended by a hair. May our lives be so ordered that when the great change shall come, our last hours like his may be peaceful and without doubt or fear when crossing the threshold of the unknown future.

THE FOLLOWING PREAMBLE and resolutions referring to the late A. W. LUECK, M.D., were passed at the last meeting of the Rock River Medical Society, at Fond du Lac, Wis., Jan. 8, 1879:

WHEREAS, We have learned with sincere sorrow, that death has removed from our midst our late esteemed friend and member, Dr. A. W. Lueck, of Maysville, Wis. Therefore

Resolved, That while we bow submissively to Him who doeth all things well, we yet sincerely deplore the early death of him whom we had learned to appreciate and love for his pure and noble character, and his unselfish devotion to the cause of science and suffering humanity.

Resolved, That his professional enthusiasm and success have afforded us unmistakable evidence of his fitness for the profession of his choice, and that his example is worthy of personal emulation by us all.

Resolved, That we shall ever hold him in remembrance for his genial social qualities, his unfeigned modesty and nobility of soul, and his professional integrity.

Resolved, That our earnest sympathy be extended to his sorrowing family, upon whom this severe affliction has fallen; may they feel the tender care of the hand that has wounded but to heal, and be cheered by the thought that the life that has gone out so early in darkness, has even now entered upon an endless existence of joy.

Resolved, That the secretary be instructed to forward a copy of these resolutions to the friends of the deceased, and to the local papers, and the CHICAGO MEDICAL JOURNAL AND EXAMINER and to the *Medical and Surgical Reporter*.

N. SENN,
H. P. WENZEL, } *Committee.*
E. J. SMITH,

HENRY P. WENZEL, M.D.,
Sec'y *Pro tem.*

HURESA, WIS., Jan. 9, 1879.

THE METRIC SYSTEM IN ENGLAND.—The *British Medical Journal*, which is well known as the official journal of the British Medical Association, announces in its issue of Dec. 21, 1878, that it has applied to the American Metric Bureau for an explanation of the metric system, and prints two columns full of information derived from that source. We commend the enterprise of our cotemporary, but cannot repress the suspicion that he travelled a great distance in order to obtain his knowledge.

Said Dr. John Bull, of Great Britain—
"With the French Metric System h'I'm smitten;
To the Yankees h'I'll go
For to find h'out, y' know,
'Ow the same by the Frenchmen h'is written!"

THE METRIC SYSTEM.

The Metric System and the Centigrade Scale have been exclusively employed in this journal since the beginning of Vol. XXXVII, July, 1878. This system, extensively or exclusively used by many other nations, is legalized in the United States, Great Britain, France, Germany, Russia and Sweden, and has thus become an essential part of the international language of science. It is recommended for adoption in this country by the American Medical Association and other scientific bodies; and is used exclusively by the United States Government in the Marine Hospital Service. To-day no physician can afford to be ignorant of its value, its simplicity and the meaning of its terms.

The subjoined tables and scales, prepared by Prof. W. S. Haines, are regularly reproduced in this journal, for the convenience of readers and correspondents.

METRIC MEASURES OF LENGTH.

Millimeter.....	0.001 of a Meter.		0.03937 in.
Centimeter.....	0.01 " "		0.39370 "
Decimeter	0.1 " "		3.93707 "
Meter	**1.**	**Meter**.....	**39.37079** "
Decameter.....	10.	Meters	393.70790 "
Hectometer.....	100.	"	3937.07900 "
Kilometer.....1000.		"	39370.79000 "

METRICAL WEIGHTS.

Milligram.....	0.001 of a Gram.....		0.015 gr.
Centigram	0.01 " "		0.154 "
Decigram.....	0.1 " "		1.543 "
Gram.....	**1.**	**Gram**.....	**15.432** "
Decagram.....	10.	Grams.....	154.323 "
Hectogram.....	100.	"	1543.234 "
Kilogram.....1000.		"	15432.348 "

☞ The United States "nickel" five cent piece weighs five grams, and is two centimeters in diameter.

APPROXIMATE EQUIVALENT OF METRICAL WEIGHTS.

For Rapid Reference.

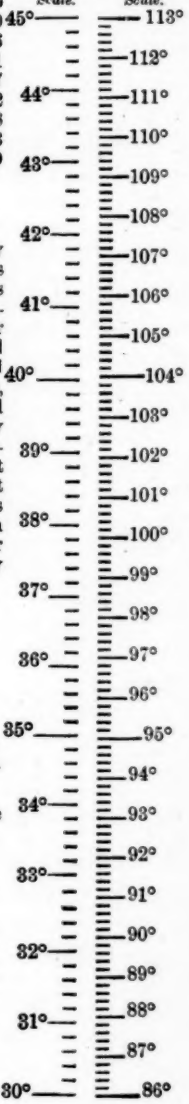
Milligrams.	*Grains.*	*Decigrams.*	*Grains.*
1 (written 0.001 or |001)*...	1/65	1 (written 0.1 or |1).....	1½
2.....	1/32	2	3
3.....	1/22	3	4½
4	1/16	4	6
5.....	1/13	5	7½
6.....	1/11	6	9
7.....	1/9	7	11
8.....	1/8	8	12½
9.....	1/7	9	14

* The decimal *line* instead of points makes errors impossible.

Centigrams.	*Grains.*
1 (written 0.01 or |01)..	1/6
2	1/3
3.....	6/15
4.....	7/11
5.....	3/4
6.....	9/10
7.....	1
8.....	1 1/4
9	1 1/3

Grams.	*Grains.*
1 (written 1. or 1|)....	15
2	30
3	46
4	61
5	77
6	92
7	108
8	123
9	139

A Kilogram=2 1/5 lbs. Avoirdupois.



METRIC FLUID MEASURES.

When using the metric system, fluids are preferably prescribed by weight, employing the gram, its multiples and subdivisions, just the same as with solids, thus avoiding the errors due to refraction, adhesion, and inaccurate measuring vessels. For practical purposes four grams of water may be regarded as equivalent to a fluid drachm of that liquid, and the same may be considered true of tinctures and infusions; syrups, on the average, are about one-third heavier than water, so that a fluid ounce of a syrup will be approximately represented by 43 grams. If preferred, however, fluids may be prescribed by volume in the metric, just as in the present system, using for that purpose the *Cubic Centimeter*, that is, a volume represented by a cube all of whose sides measure one centimeter. An ordinary back-gammon die is usually about this size. One cubic centimeter (written 1 C. C.) = 16.231 minims. It is approximately regarded as one fourth of a fluid drachm.

APPROXIMATE EQUIVALENTS OF CUBIC CENTIMETER.

0.001 C. C.	=	1/65	minim.
0.01 "	=	1/6	"
0.1 "	=	1 1/2	"
1. C. C.	**= .....**	**15**	**minims.**
4. "	=	1	fluid drachm.
16. "	=	4	fluid drachms.
32. "	=	1	ounce.

1000 C. C. (usually known as a **Liter**) is a trifle more than one quart, wine measure.

The following prescription—

℞: Potassii bromidi.....ʒi.
Elixir aurantii.....fl. ʒviij.
Mix.

would, in metric terms, be written:

Potassic bromide.....	32	Gm.
Orange elixir.....	250	C. C.

Mix.

Or, in a more finished decimal manner:

Potassic bromide.....	30	Gm.
Orange elixir.....	250	C. C.

Mix.

ANNOUNCEMENTS FOR THE MONTH.

SOCIETY MEETINGS.

Chicago Medical Society—Mondays, Feb. 10 and 24.
West Chicago Medical Society—Mondays, Feb. 3 and 17.

CLINICS.

MONDAY.

Eye and Ear Infirmary—2 p. m., Ophthalmological, by Prof. Holmes; 3 p. m., Otological, by Prof. Jones.
Mercy Hospital—1:30 p. m., Surgical, by Prof. Andrews.
Rush Medical College—2 p. m., Dermatological and Venereal, by Dr. Hyde; 3 p. m., Medical, by Dr. Bridge.
Woman's Medical College—2 p. m., Dermatological, by Dr. Maynard.

TUESDAY.

Cook County Hospital—2 to 4 p. m., Medical and Surgical Clinics.
Mercy Hospital—1:30 p. m., Medical, by Prof. Hollister.

WEDNESDAY.

Chicago Medical College—1:30 p. m., Eye and Ear, by Prof. Jones.
Eye and Ear Infirmary—2 p. m., Ophthalmological, by Dr. Hotz.

THURSDAY.

Chicago Medical College—1:30 p. m., Medical, by Prof. Quine.
Rush Medical College—3 p. m., Diseases of the Nervous System, by Prof. Lyman; 4 p. m., Diseases of the Chest, by Prof. Ross.

FRIDAY.

Cook County Hospital—2 to 4 p. m., Medical and Surgical Clinics.
Mercy Hospital—1:30 p. m., Medical, by Prof. Davis.

SATURDAY.

Rush Medical College—2 p. m., Surgical, by Prof. Gunn.
Chicago Medical College—2 p. m., Surgical, by Prof. Isham; 3 p. m., Neurological, by Prof. Jewell.
Woman's Medical College—11 a. m., Ophthalmological, by Dr. Montgomery.

Daily Clinics, from 2 to 4 p. m., at the Central Free Dispensary, and at the South Side Dispensary.